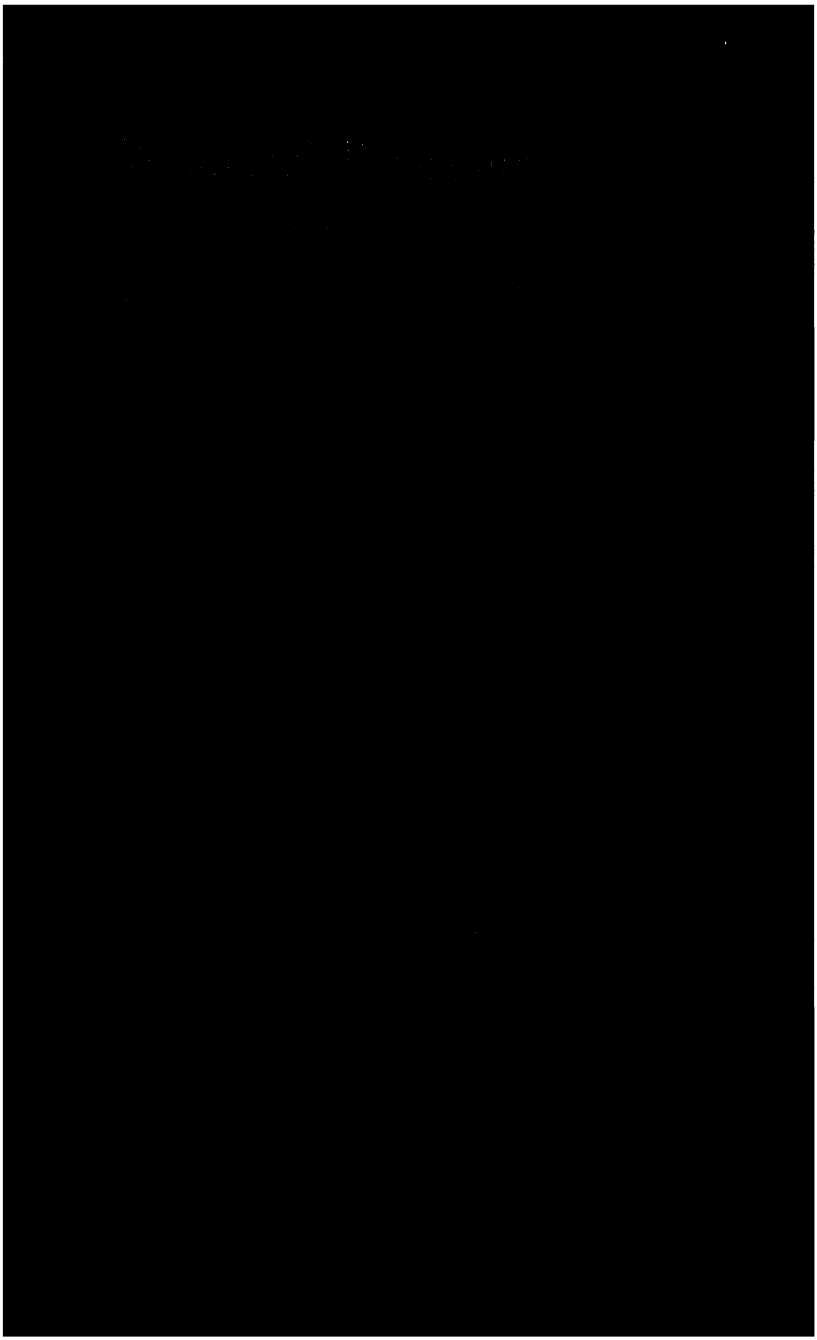

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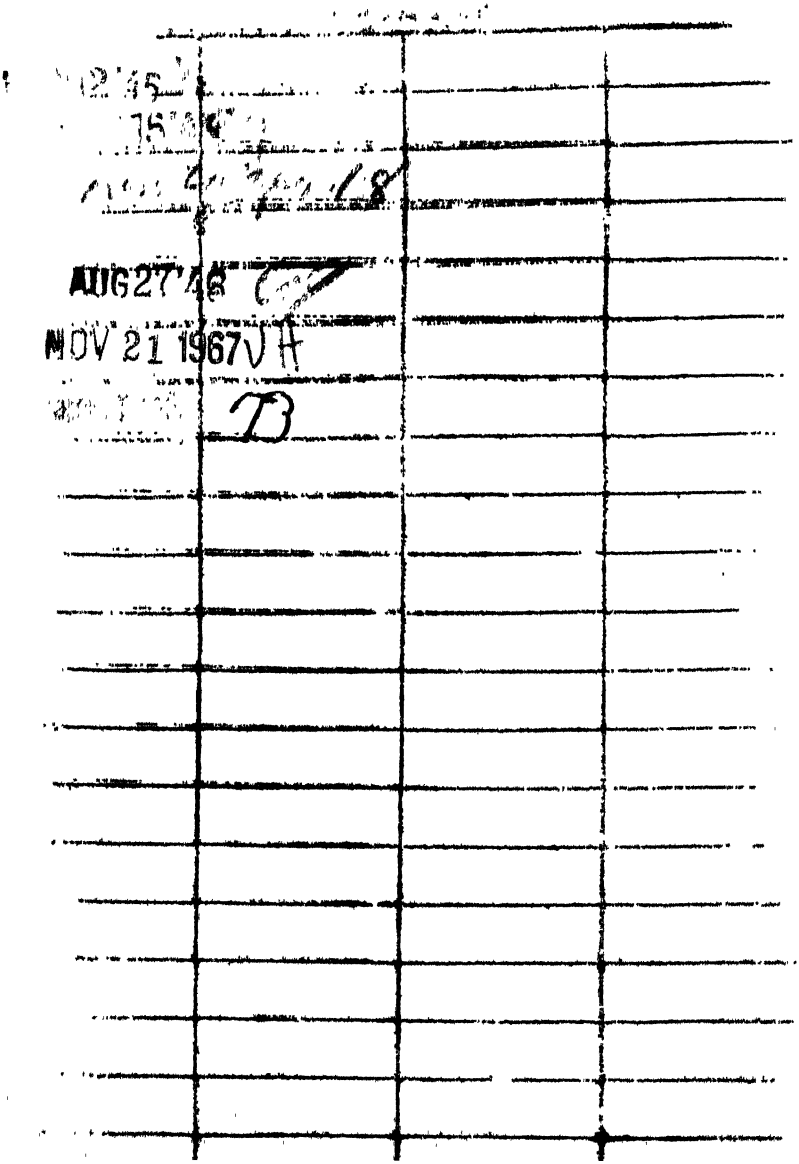
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THE

FORTY-SECOND YEARBOOK

OF THE

NATIONAL SOCIETY FOR THE STUDY OF EDUCATION

PART I

VOCATIONAL EDUCATION

Prepared by the Society's Committee

FRANKLIN J. KELLER *(Chairman)*, EARL L. BEDELL, BEULAH I. COON, OAKLEY FURNEY, BEN G. GRAHAM, GRAYSON N. KEFAUVER, FREDERICK G. NICHOLS, THOMAS H. QUIGLEY, AND ASSOCIATED CONTRIBUTORS

Edited by

NELSON B. HENRY

THIS PART OF THE YEARBOOK WILL BE DISCUSSED AT THE ST. LOUIS MEETING OF THE NATIONAL SOCIETY, SATURDAY, FEBRUARY 27, 1943, 8:00 P.M.

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EDITOR'S PREFACE

The preparation of the present Yearbook, *Vocational Education,* was formally initiated at the meeting of the Board of Directors in St. Louis on February 23, 1940. The trying experiences of youth during the depression years, the increase in federal appropriations in aid of vocational training, and the demands of industry for a larger reservoir of skilled labor called for searching inquiries during the past decade regarding the efficacy of school and college programs designed to prepare youth for induction into their chosen occupations. In view of the timeliness of this topic, Miss Goodykoontz, Chairman of the Board of Directors in 1939, discussed the problems of vocational education with several representatives of this field. Mr. Franklin J. Keller, who later became chairman of the committee for this Yearbook, was invited to meet with the Board to discuss possible plans for a yearbook on the subject. The outline presented by Mr. Keller was favorably considered and provision was made for the expenses of committee meetings as soon as an appropriate committee could be organized.

The plans for this yearbook were further developed during the summer of 1940 through correspondence between Mr. Keller and several members of the Board. At the November meeting a committee of eight members was selected, consideration being given to the major divisions of the field of vocational education, the public and private agencies concerned with the promotion of vocational training, and the different levels of schooling at which opportunities for vocational instruction are provided. In order that the various aspects of vocational training might receive appropriate treatment in the yearbook, the committee enlisted the services of twenty-three associate contributors. Thus, the types of training considered advantageous for future workers in numerous occupations, the objectives and procedures of different agencies and institutions, as well as the problems of pupil guidance and teacher training are explained by an experienced observer or technician in each instance.

The subject of vocational education is not new to the series of yearbooks published by this Society. The Fourth Yearbook, Part II, entitled *The Place of Vocational Subjects in the High-School Curriculum,*

was a significant contribution to the relatively early literature of this field. In the "Introduction" Manfred J. Holmes, Secretary of the Society, describes the yearbook as a treatment of "the three great groups of what may be called the vocational studies." The subjects treated are commercial courses, manual training, and home economics. J. Stanley Brown, Township High School, Joliet, Illinois, contributed the chapter on commercial studies; Gilbert B. Morrison, William McKinley High School, St. Louis, Missouri, the chapter on manual training; and Ellen H. Richards, Massachusetts Institute of Technology, the chapter on home economics. It is interesting to note that the concepts and problems with which these writers were concerned prompted them to discuss such familiar topics as selective guidance for pupils seeking vocational training, the need of more liberal training of vocational teachers, and "the artificial distinction between vocational and cultural studies." Part I of the Sixth Yearbook was devoted to the discussion of *Vocational Studies for College Entrance*, and Part II of the Eleventh Yearbook described the developing programs of instruction in *Agricultural Education in Secondary Schools*. Part II of the Twenty-third Yearbook, *Vocational Guidance and Vocational Education for the Industries*, presented an interpretative analysis of data pertaining to vocational-guidance practices and existing programs of industrial education in representative school systems. More recently, the Thirty-seventh Yearbook, Part I, *Guidance in Educational Institutions*, was prepared with the view of depicting the changes in the theory and practice of guidance which were then developing in keeping with the increasing emphasis upon the social aims of education.

The present Yearbook not only extends the exposition of the vocational topics treated in earlier publications of the Society to include many additional types of training and current practices in administering the appropriate programs of instruction but also provides a challenging definition of the legitimate objectives of vocational education and the relation of these objectives to the total educational program to be implemented by schools and other agencies in the interests of social progress. The volume holds stimulating values for school administrators, teachers, and parents, for public officials and welfare agencies, for employers and employees, and for research enterprises in both educational and occupational areas.

NELSON B. HENRY

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SECTION I

NEEDS AND PURPOSES OF VOCATIONAL EDUCATION

CHAPTER I

VOCATIONAL EDUCATION FOR AMERICAN LIFE

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New York, New York

I. THE PURPOSES OF VOCATIONAL EDUCATION

The most respected—and respectable—single word in the American language is "work." From the landing of the Pilgrims to the feverish one hundred billion dollar war program the rallying cry has been work. From Governor Bradford to Donald M. Nelson, from salvation of the soul to defense of the soil, from food, clothing, and shelter to arms, ships, and airplanes, the only solution has been work, more work, and still more work. As the pioneers pressed westward through the forests, crossed the plains, and scaled the Rockies, they knew little that was not work—the hardest, the most soul-trying kind of work. Nor did those who stayed in the east—who tended the lamp of learning, who ministered to the soul—lie in the soft arms of culture or sit at the groaning table of the church. They were hard-working scholars and hard-working pastors. Using the word in its broadest connotation of "exerting physical or mental labor for the accomplishment of some object," Americans have been hard-working people. That they have respected work has been amply evident in their strong emotional reaction to such a variety of nonwork words as idler, drone, dilettante, loafer, bum. Work is the generic term for any continuous application of energy toward an end. That energy may be concentrated in the hands or the back or the vocal cords or the brain cells, but it always culminates in some product—a beet, a boat, a book, a poem, a sermon, an opera—something that not only enables the producer to live but enables consumers (who are the producers of other things) to live.

Comfort, peace, happiness, beauty, art, culture, friendliness—all that we now consider best in life—are not characteristic of prehistoric life but of the civilization which has replaced it. In the development of this civilization no

factor has been more potent than *work*. It is work, from which prehistoric and modern savages appear to be so free, which has raised man from the position of a savage and created the civilization of which we are so proud today. . . . . The fact is that a man works only a small part of the day to escape starvation. He works the greater part to avoid living as a tramp or as a savage. "It is his desire to live as a civilized man, with the comforts and conveniences of civilization and as many of its luxuries as he can get" that leads him to devote so large a portion of his day to work. Unless this is clearly recognized, much that occurs in the course of work in modern industry cannot be clearly understood.[1]

Vocational education is learning how to work. For the educator, it is teaching others how to work. In the rise from savagery to civilization, people have learned to work in many different ways. At first they must have learned by accident, the Lamb-roast-pig method. Down through the ages, the most popular method has been trial and error, mostly error—the auto-mechanic-learning-on-your-car. Slaves learned under the whip lash. Duller folk often learn best when they are "yelled at." Average people learn by being told how and by being shown. Bright boys and girls need only watch the expert and then imitate. They learn by observation.

It is obvious that, through these casual, fortuitous methods, all adult persons who earn a living must have received some kind of vocational education and always will. Planned, organized vocational education came late in the history of work. Apprenticeship is one of the early forms, the public vocational school one of the latest.

Do we need planned, organized vocational education? Where should vocational education occur? Who should give it? What methods should be used? Who should be the recipients? Who should control and administer vocational education? Obviously, the answers to these questions depend upon the answers to other questions. What is the American philosophy of life, if any? What is the American, the democratic way? Are all Americans created free and equal? Are they entitled to equality of opportunity? Is "any job well done" entitled to the same respect—and the same remuneration?

The last generation has been born into an age of "technological changes." It is the "mechanical age." Factory, office, store, farm, the high seas, the highroads, the airways, all buzz and whirl and roar and

[1] Morris S. Viteles, *The Science of Work*. New York: W. W. Norton & Co., 1934.

crash with machinery. Should vocational education consist entirely in training for the making and operation of machinery? Has the personal element been eliminated? Or are there still attitudes, emotions, graces, amenities, so bound up with skills that they too should be the subject matter of vocational education?

Who should use what methods in vocational education? Have skills in teaching kept pace with skills in producing? Has the vocational education of teachers advanced with the vocational education of machinists and physicians and store clerks and lawyers and saxophone players?

In a humble but not too modest way, this Yearbook attempts to answer these questions. This chapter attempts to expound a philosophy and to provide a setting into which the succeeding chapters may comfortably adjust themselves.

1. Various Conceptions of Work and Their Relation to Vocational Education

a. Positions, Jobs, Vocations, and Callings. The most frequent oblique criticism of vocational education is that "one should not only learn to earn a living, but to live a life." Attitudes toward work range from disgust to exaltation. The tramp and hobo never work except under compulsion and then only long enough to earn the next meal or the night's lodging. In a sense, Dr. Grenfell never worked, for his whole life was a manifestation of high duty to humanity. Energy and skill were absorbed and lost in the mission to which he was called. His was not a job which he "took," or a position in which he was "placed," but a vocation to which he was "called." A vocation is a calling.

Addressing college students, Elliot Dunlap Smith of Yale University has said the same thing with extreme effectiveness.

> If you conceive of a vocation as something that is inevitable but not very pleasant to contemplate, something sordid, something not quite nice, then it will be just that. If a job is to you merely the means of bringing food, shelter, and clothing out of society, plus money enough to buy your pleasures, if a job is to you something quite apart from the important things you expect from your four years of college, then your job will be just a job. If, however, a job is to you something towards which you are striving because it will give scope to your personality, will enable you to become creative, will be

a part of life itself, then your vocation will be truly what its name implies, a *calling*. More than that, what you learn in college will be really important, it will take on new significance; it will not be mere diversion for the gentleman, or the dilettante, or the dual personality who would be cultured among his friends and hard-boiled among his business associates. Education is for life and life requires education.[2]

These concepts are of the highest practical import. They are fundamental in the selection of vocational teachers, who themselves may be either holders of jobs or followers of vocations. They determine the curriculum, even down to detail. The prospective businessman may learn only to interpret sales charts and reinvest profits or, as Adler[3] suggests, he may learn too about the Phoenicians, the Greeks, the Venetians, about the Hanseatic League and the Steel-Yard in London. Or, as would be said on the high-school level, pupils should learn not only to perform manual operations skilfully but also, through the social studies, to be good neighbors and good citizens of the world. If the vocation is to give scope to personality, as Smith would have it, then the vocational school should give attention to personality through the so-called cultural subjects, through music, through art, through health, even through direct teaching and exercise of good personal habits.

b. Vocational Education and General Education. In the professions, controversies are largely jurisdictional and proprietary. Angelo Pacelli, in pain and out of work, has no theories about socialized medicine. He wants somebody to cure him, somehow, somewhere. He does not care who does it or in what hospital so long as he can be made to feel better and get another job. Angelo wants his son Patsy to be a good boy and get a job too, but neither he nor Patsy cares whether this comes about in a "general high school" or in a "vocational high school" or a "comprehensive high school." In fact, he wouldn't know the difference.

If educators keep a sharp eye on Patsy and his father and the community in which they live and work, they will not become bogged down in such self-revealing conflicts as those that have marked the "general versus vocational education" era. The play of wisdom and wit that en-

[2] Franklin J. Keller, "The Great Dichotomy," *Occupations: The Vocational Guidance Magazine*, XIII (June 1935), 828-29.

[3] Felix Adler, *The Ideal of Culture for Businessmen*. New York: The American Ethical Union (2 West 64th Street), 1924.

livens and enlightens the scene provides helpful stimulation,[4] but the intelligent, friendly, and well-trained teacher or counselor, confronted with Patsy, knows pretty well what he needs to make a man out of him if society, and especially the school system, were only organized to provide it. He, too, is unconcerned (unless his job is involved) as to whether it shall be provided through general or vocational education. This Yearbook presents no argument for the pre-eminence or the superiority or priority of vocational education over general education. If a vocation is truly a calling, then Patsy must be exposed to all those influences that make it a calling. This is the Yearbook on vocational education because the National Society for the Study of Education believes that educators and laymen desire a clear exposition of those phases of education that lead to vocational competence, let the courses fall where they may. The Yearbook committee believes that such vocational competence develops out of the congeries of home, street, church, and school forces that constitute the education of the child. It believes that this development must be continuous and integrated, but that it will fall short of the vocational aim unless *at certain points and under certain conditions, conscious, honest, and insistent attention is given to the training of skills necessary for vocational success.* This is vocational education in the narrower sense and is necessarily the major subject of treatment in this Yearbook. Tracing the education of the child from the home through the various school levels to satisfactory adjustment on the job, Dean Kefauver treats the broader problem. Recognizing the fact that planned school-vocational education is a comparatively late social development, he recognizes, as do the other contributors who deal with non-school agencies, that vocational education is still largely "by-education."

Whether or not a school "subject" is general or vocational, is partly a matter of intention and partly a matter of chance. Reading writing, figuring, drawing, health, music, and good deportment are all accomplishments of good family members, good companions, and good neighbors, regardless of how they earn their living. However, each of these subjects may turn into job skills of the highest earning value. Writers, book reviewers, accountants, artists, musicians, physical trainers, and receptionists, all possess vocational competence based upon

[4] See especially James Marshall, "Plato, Buddha, and Mr. Hutchins," *Harper's Magazine,* June, 1941 and Robert M. Hutchins, "Education for Freedom," *Harper's Magazine,* October, 1941.

one of these "subjects." If so-called general education were to make a more catholic choice from human activities, thus becoming truly general, the vocational-guidance value of such education would reach the entire student body and the need for special development of revealed aptitudes would lead to something that is obviously vocational education.

Putting it another way, there is general education for everybody and special education for everybody. There is common social development for everybody and particularized individual vocational development for everybody. Since these educations are for everybody they must be available to everybody. This is democratic education for American life.

2. Some Major Problems in Description and Exposition

There never has been a time when philosophers, economists, statesmen, or educators, or all of them have not raged about "sound doctrine." It has been realism *vs.* nominalism, free trade *vs.* protection, nationalism *vs.* internationalism, or classics *vs.* science. Amid the all-pervasive issues of fascism *vs.* communism and dictatorship *vs.* democracy, the educators still debate general *vs.* special education, progressive education *vs.* traditional education, and cultural education *vs.* vocational education.

a. The Semanticists and the Stylists. The big words may serve as titles, provocative goads for the stirring up of interest, but they mean nothing until they are referred to specific, concrete, individual things or human beings, the exact size, color, and form of which (or whom) we can agree upon. They argue and they argue and they argue, but as Richards says, "A controversy is normally an exploitation of misunderstandings for war-like purposes." Even the word "individual" has tended to become an abstraction. Yet we shall have to cling to the individual, really individualize him.

The studies of the semanticists confirm the conclusions of the practicing stylists. Stendhal said simply, "Style is this: To add to a thought all the circumstances fitted to produce the whole effect that the thought ought to produce." This is to say that an abstract idea has meaning only when it is supported by accurate pictures of things and accounts of events such as will conjure up in the mind of the reader the same pictures and events that were in the mind of the writer. These must be things and people that they both know. Murry com-

ments that the writer's "sensuous perceptions are keen and precise; he has a vivid delight in the physical particularity of the persons engaged; but over and above this he has an acute sense of the psychological quality of the incident."[5]

Probably, this sense of psychological quality is the most important factor of all. It is inherent in the unforgettable school scenes of great literature, of which there are all too few. Perhaps the best remembered are the spelling–window-washing lesson in "Dotheboys Hall" and the composition contest in Thrums. "First they spells 'w-i-n-d-e-r,' and then they goes and does it." So sensitive was Dickens to the psychological quality of the incident and so powerfully did he convey it to his readers that all England was stirred up to a reform of its social system, especially the schools. So poignantly did Barrie make his readers feel the universality of sentimental Tommy's artistic soul in his search for the right word that the book itself is a high work of art, a compelling piece of literature. Not yet, perhaps, recognized as great literature, "The Education of Hyman Kaplan," that incomparable story of the American night preparatory school for adults ('English—Americanzation—civics—preparation for naturalization'), exhibits the same acute sense of the psychological quality of incident. It culminates in the final examination, in which Mr. Kaplan does badly, and in that melting "P.S." at the bottom of his paper: "I dont care if I dont pass, I *love* the class." Because Leonard Ross has given us all the circumstances and has conveyed the psychological quality of the incident, we know exactly what Hyman means.

Nobody will confuse this Yearbook with great literature. Yet, it is hoped that it will do, in a humble way, what great literature does. By using concrete rather than abstract terms, by supplying concrete terms with unmistakable referents (the object or situations in the real world to which the words or label refer), by adding to a thought all the circumstances fitted to produce the whole effect that the thought ought to produce, by using active verbs that strike squarely at their objects, and by sensing the psychological quality of learning activities, it is hoped that the book will convey to its readers the meaning of vocational education.

b. What is "education"? What is "American"? What is "life"? What is "academic"? What is "vocational"? While it is important that we know just what each of these words means, from the foregoing

[5] J. Middleton Murry, *The Problem of Style*, p. 105. London: Oxford University Press, 1922.

discussion it is obvious that no mere word cluster will make their meaning clear. In a sense, the whole book will supply the definitions. At this point it is only important to emphasize the fact that the controversies, based on misunderstandings, have raged around differences of meaning. Education has been broad or narrow, cultural or utilitarian, academic or vocational, general or specialized. In sound practice there can be no such distinctions. The individual is a peculiar organism for the development of which various influences must play upon him at various times, influences that are bound to be quite different in both quality and timing from those required by another organism.

About a dozen years ago three of the Harvard summer faculty lunched through a series of informal discussions of the relation of academic to vocational education. Two of them, academic in their background, training, and vocation, naturally emphasized the importance of "general" education, cultural attainments, and civic responsibility. The third discussant, with highly academic training, but with an intensively vocational background and vocation, laid stress upon the acquisition of vocational skills and attitudes. The presumed academicians and the presumed vocationalist started their conversation from almost opposite poles. But, being aware of the importance of meaning, they pictured in concrete terms the kind of schools they would set up for the kinds of human beings they would educate. The result was that by the time the last dessert was eaten, they were sailing on practically the same parallel of latitude. Holding to the same fundamental educational philosophy, the fullest development of all individuals in a democratic society, and having pretty much the same conception of the effective processes of inculcating knowledge, skill, and attitudes, they arrived at the same kind of institution for bringing about those changes. The so-called academic disputants were the present dean of the Harvard School of Education, a strong advocate of training for vocational competency, the present president of Simmons College, administrator of a college laying heavy emphasis upon vocational preparation, and the present principal of the Metropolitan Vocational High School in New York City, executive officer of an institution in which every pupil learns a trade but is given every opportunity to supplement that trade with all the so-called cultural subjects that his individual capacity will absorb.

Eighteen or twenty years ago this same principal was protesting

to David Snedden that the latter was wrong in advocating the postponement of vocational education until sixteen or eighteen years of age. The argument was that strong motivation toward the acquirement of skill was often present in comparatively young children and that, whenever it appeared, it should be given an outlet in training for a vocation, if possible. There ensued the same kind of careful description and definition that characterized the Harvard conferences—with the same result. What the principal called vocational education, Snedden called industrial arts.

The excuse for these personal references is that they made a profound impression upon the writer and have served as a powerful touchstone for resolving differences of opinion regarding education. It is hoped that in this Yearbook a similarly careful description of concrete programs will be both enlightening and useful.

c. The Many and the Few. It must now be apparent, by implication at least, that this Yearbook holds to the view that there cannot be general education for some people and vocational education for others. There must be education for everybody. Differences in the kind of education must be determined by individual capacity and social needs. Vocational education is for everybody who works, and everybody should work.

We shall find no better way of sensing the infinite variety of human beings than to take note of the kinds of work they do. Glance through the *Dictionary of Occupational Titles.*[6]

A casual inspection of the "A's" reveals accountant, audit; acetylene-burner; acrobat; ad writer; agricultural engineer; air-line pilot; aitchbone breaker, hog; alley boy; animated-cartoon artist; anthropologist; apple peeler; architect, naval; ash man; author. Among the other letters of the alphabet we find ballyhoo man; barber; bartender; clergyman; final-and-delayed-bill-analysis clerk; final-touch-up man; physician; pigs-feet boner; pantsmaker; strip tease artist; and sweeper.

d. Administration, Supervision, and Method. In the name of an institution the word "school" is no guarantee that the inmates are learning anything. The addition of the word "vocational" is no assurance that they are learning a trade. Most articles and reports ignore with almost a studied unconcern the psychological, pedagogical, and administrative phases of organized education, all this despite the

[6] United States Department of Labor, *Dictionary of Occupational Titles.* Washington: Government Printing Office, 1939.

fact that many of the weaknesses of both so-called general and so-called vocational education can be attributed to lack of motivation (meaning that it has not been interesting to boys and girls), or to antiquated methods of teaching, or to traditionally inflexible time and subject programs, or to the ineptitude of the teaching and supervising staff. Even when these phases are recognized, they sometimes serve strange gods. For instance, Hutchins says,

> Interest as an element of pedagogy is a splendid thing, and its revival in the schools is a major contribution of progressive education. Interest as the aim of education leads to aimlessness. The proposition that what is taught should be taught as interestingly as possible does not mean that what is interesting is what should be taught. The function of the educator is to figure out what should be taught and then teach it in as stimulating a fashion as he can. The factor that should determine what is taught is not interest but a decision about how to produce individual happiness, good citizenship, and the improvement of society . . . . . We must remember that educational technology has made great advances in recent years . . . . . If you know what you want to do, educational engineering will help you do it far more effectively than you could have done it forty years ago. We should not despair of communicating a liberal education to all the young merely because we have failed with many of them in the past. Forty years ago there was no such thing as educational engineering.[7]

Embedded in these seemingly wise statements are profound fallacies arising apparently out of an aloofness from the actual day-to-day school situation. For some particular child, in some particular place, at some particular time, interest may determine exactly what should be taught regardless of all other factors. While the term "educational engineering" is new, sound methods of teaching were devised much more than forty years ago. And some of these methods have grown out of the very kind of activity implied in vocational education. The point to be made here is simply that it is difficult to convey an accurate impression of this complex of forces comprising the total situation called education. The complexity is as great as that of a whole personality and therefore constitutes a major problem of description and exposition.

The beat of the tom-tom through the forest conveys information and emotion. It says that there will be a fight and that some warriors will be happy, others sad, still others dead. The click of the telegraph key, the tap-tap of the typewriter, also tell of victory and ex-

[7] Robert M. Hutchins, *op. cit.*

altation of defeat and fear, but with infinite variety and complexity. The sounds of human voices over the air, the black marks on the printed page, are only the fuses that touch off trains of thought and onslaughts of emotion. Without further belaboring the point that there are some major problems in describing and explaining vocational education, the contributors attempt the resolution of these problems in hope and faith. They hope that their earnestness and experience will justify the faith of those readers who come to the book seeking enlightenment, perhaps even inspiration.

II. Occupational Needs of Youth and Adults

1. Work and Jobs

If work is "the generic term for any continuous application of energy toward an end," then "job" is the specific term for any particular person's application of energy toward an end. That end is primarily his own sustenance but may be and often is the welfare of society. A job may be a vocation.

For a generation practically all youth literature has been predicated upon idleness and unemployment. As these lines are written (November, 1941) youth are riding high. Instead of moping in school because there is no other place to go, they are leaving in hordes to take jobs at fabulous wages. At the time of revision (May, 1942) many are entering the armed forces, getting dangerous jobs at low wages. As this Yearbook goes to press (December, 1942) the boys of the eighteen and nineteen year age-groups are being included in the draft. Amid all this vacillation is there a common principle, a constant factor, a continuing need? Will this Yearbook have the same pertinence when it is published in February, 1943, and when it is read in 1944, 1945, and 1950? Will the need for vocational education persist? Will the techniques remain pretty much the same? Will the youth, who had no voice in choosing their birthdays or maturation days, still need to be trained in competence to produce or to serve what other people want, regardless of the current health of the system of exchange? This Yearbook assumes that vocational education is a continuing need of youth and that over the period of this book's probable life the fundamentals of method will change very little.

2. What Youth Needs

Assuming then that every boy and girl coming of age in the twentieth century must learn how to work, it is useful to analyze his or her

occupational needs. Especially during and since the depression period when the needs were dramatized, the studies of youth have been numerous. Outstanding have been those of the President's Advisory Committee on Education, the American Youth Commission, the New York State Regents' Inquiry, and the Educational Policies Commission of the National Education Association.[8]

[8] Among the more important publications of these bodies are:

The Advisory Committee on Education, *Report of the Committee*. Washington: Government Printing Office, 1938.

The Advisory Committee on Education, *Vocational Education, Staff Study No. 8*. Washington: Government Printing Office, 1938.

Homer P. Rainey, *How Fare American Youth?* New York: D. Appleton-Century Company, 1938.

Harl R. Douglass, *Secondary Education for Youth in Modern America: A Report to the American Youth Commission*. Washington: American Council on Education, 1937.

Howard M. Bell, *Youth Tell Their Story: A Study Conducted for the American Youth Commission*. Washington: American Council of Education, 1938.

Louise Arnold Menefee and M. M. Chambers. *American Youth: An Annotated Bibliography Prepared for the American Youth Commission*. Washington: The American Council on Education, 1938.

Howard M. Bell, *Matching Youth and Jobs. Prepared for the American Youth Commission*. Washington: American Council on Education, 1940.

The Regents' Inquiry, *Education for American Life: A New Program for the State of New York*. New York: McGraw-Hill Book Co., Inc., 1938.

Frances T. Spaulding, *High School and Life*. The Regents' Inquiry. New York: McGraw-Hill Book Co., Inc., 1938.

Thomas L. Norton, *Education for Work*. The Regents' Inquiry. New York: McGraw-Hill Book Co., Inc., 1938.

F. W. Reeves, T. Fansler, and C. O. Houle, *Adult Education*. The Regents' Inquiry. New York: McGraw-Hill Book Co., Inc., 1938.

Ruth Eckert and Thomas O. Marshall, *When Youth Leaves School*. The Regents' Inquiry. New York: McGraw-Hill Book Co., Inc., 1938.

Howard E. Wilson, *Education for Citizenship*. The Regents' Inquiry. McGraw-Hill Book Co., Inc., 1938.

Julius B. Maller, *School and Community*. The Regents' Inquiry. New York: McGraw-Hill Book Co., Inc., 1938.

Educational Policies Commission, *The Purposes of Education in American Democracy*. Washington: National Education Association of the United States, 1938.

Educational Policies Commission, *The Structure and Administration of Education in American Democracy*. Washington: National Education Association of the United States, 1938.

a. Youth Need to Know Themselves. Obviously, self-revelation is the product of various and divers influences, many of them casual and unorganized. However, in so far as youth must know themselves to obtain vocational success, vocational guidance should help them obtain that knowledge.

b. Youth Should Know Other People; They Should Know Life. This is the larger task of society, especially as represented in the home, the church, and the school. In so far as life is work, vocational guidance is responsible for bringing the facts home to youth.

c. Youth Must Develop a Philosophy. This again is the task of the home, the church, and the school. Morals, character, religion, are other words for whatever it is that determines an attitude toward life—and toward jobs.

d. Youth Must Know About Jobs. To a considerable extent such knowledge is an accumulation of casual observation and experience, incident to ordinary living. Children see doctors, dentists, teachers, policemen, firemen, street sweepers, truckmen, and letter carriers at work. They pick up occupational information, much of it inaccurate. However, all this is fragmentary, uninterpreted, and related to only a few occupations. To know about all jobs, or even to know about those that have some likely relationship to the individual's interests, aptitudes, and capacities, requires the carefully organized teaching included in a sound vocational-guidance program.

e. Youth Need to Make a Choice of Vocation, or Rather a Series of Tentative Choices. Again, a vocational-guidance program is essential.

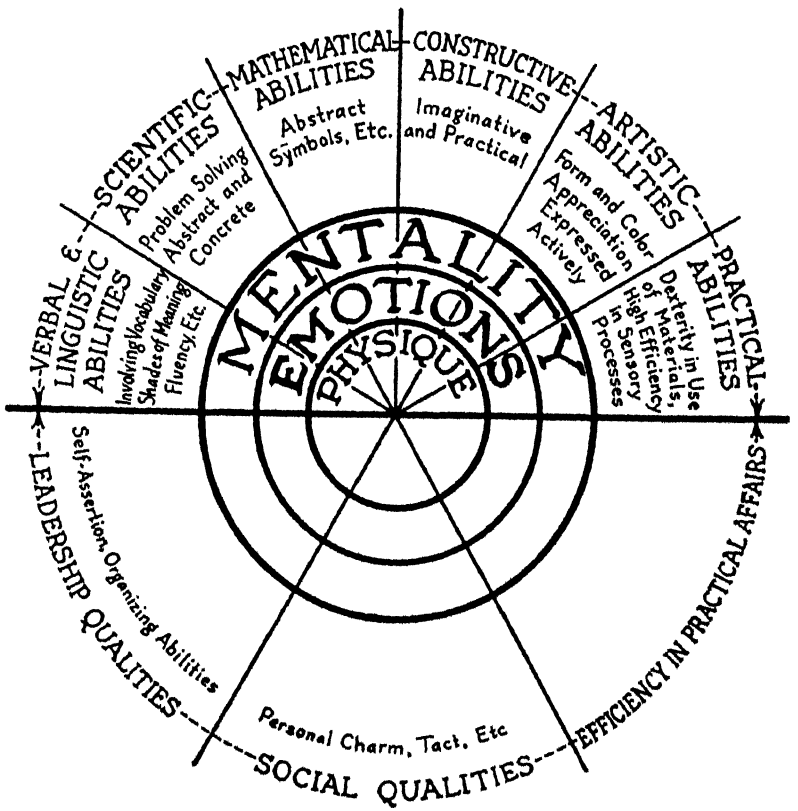
f. Youth Need to Learn How to Work. The same changes in social organization that have given rise to the need for vocational guidance have given rise to the need for vocational education. This need is what this Yearbook is about. Many years ago Charles R. Richards, then director of Cooper Union, developed a formula which was frequently used by vocational educators. It is a useful reminder of the principal elements involved. $E \propto S + T + I + M$

This is simply another way of saying that efficiency on the job varies as the possession of manipulative skill, of technical knowledge, of intelligence, and of morale. The formula is an effective reminder of the fact that mere training of the muscles is not vocational education. Vocational education concerns the entire human being in relation to all of society.

3. The Good Life and the World's Work

Nearly a decade ago the present writer made an approach to this problem that still seems valid.

The individual must be helped to know himself objectively. He must recognize himself as a comparatively better or worse being with respect to the various abilities and qualities which make for occupational competence. Earle's monograph [F. M. Earle, *Psychology and the Choice of a Career.* London: Metheun & Co., 1933.] presents the individual graphically and we have taken the liberty of adapting his chart to our present purpose. In view of the assertions of all the psychologists and our general knowledge of the situation, we must protect ourselves by saying that the entire chart is in-



THE INDIVIDUAL
(Adapted from Earle)

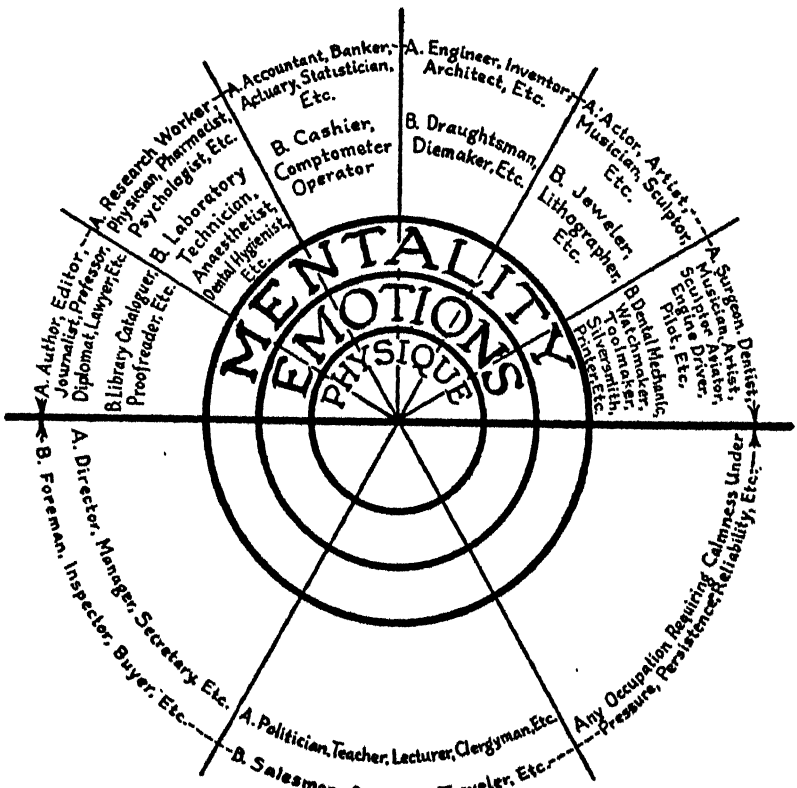
tended to be provocative rather than authentic. It will serve as a stimulus for thinking.

Well then, there is the individual. Each of the upper sectors segregates certain groups of abilities to which elements of physique, emotion and mentality contribute. One must think of the central circle and the two surrounding bands as varying in relative size for each group of abilities and for each ability. Moreover, for each individual there will be similar variations. Indeed, for some, physique may become such an important factor as to compress the encircling bands into mere lines. They are the strong-backed individuals whose vocational competency or incompetency is determined by the size of their bones and the strength of their muscles. In such cases, they may possess in no useful degree any of the groups of abilities shown on the chart but may serve simply as human power plants. On the other hand, the middle band may dominate for the artist and the outer for the college professor.

Properly speaking, the lower half of the circle should be folded under the upper to indicate that leadership, social and practical qualities, are general attributes that may accompany abilities in varying degrees. The artistic person with social qualities makes pleasant contacts with people, gets himself known and liked, and attracts patrons, while the nonsocial artist starves in the traditional garret. The scientifically able person with a penchant for practical affairs becomes the managing director of an industrial concern while he who lacks that quality pegs along at pure research in the university laboratory. The linguistically minded person with qualities of leadership becomes the crusading editor while his fellow, equally adept in the use of words but lacking in the quality of leadership, writes for an audience that takes him or leaves him.

The analysis of the individual and the analysis of the occupation have frequently been carried on in such manner that neither could be interpreted in terms of the other. No guidance function is served by the analysis of either unless the individual can think of himself in terms of competency for the job. So we have constructed another chart to present the field of occupations. Now, it is susceptible to the same kind of variation between the inner circle and the surrounding bands. Any one occupation may require abilities and qualities in any one of many combinations and permutations. If a chart could be drawn for any one individual and another for the occupation for which he was exactly fitted, the one could be superimposed upon the other and perfect coincidence would result. And, I suppose, if composite charts could be drawn for all the people living today and for all the jobs in a perfect socially organized world, they would exactly coincide. All of which is, of course, too nice and pretty to be true. But not too remote to be a goal toward which we may strive. In other words, if we can know better and better, in terms that are comparable, what kind of individuals there are

in the world and what kind of jobs there are in the world, we can approximate an adjustment. These diagrams must not be thought of as fixed, unchanging patterns. Quite the contrary. They change all too confusingly with the constantly varying nature of each individual person, his growth and adaptation under the impact of education and of experience in work situations—situations that also change, partly because our industrial society slowly evolves, partly because the individual himself modifies the very job or profession he is in. This is, of course, entirely apart from a consideration



A. Occupations requiring high intelligence or a high degree of skill.

B. Occupations requiring general intelligence somewhat above the average or occupations that are "semiskilled."

OCCUPATIONS

of the kinds of individuals there ought to be and the kinds of jobs there ought to be.[9]

4. The Size and Quality of the Problem

It is estimated that 1,750,000 additional youth enter our national labor market every year. There are at least 18,000 recognizably different occupations in American business and industry. The implications of these facts have been noted by Bell:

On the surface, a situation of this sort—involving the vocational counseling, classification, preparation, and placement of millions of individuals in thousands of different jobs—would seem to present all the difficulties of an incredibly complicated jig-saw puzzle. But, fortunately, bringing about a reasonably satisfactory adjustment between the interests, aptitudes, and abilities of these youth and the available jobs they are most clearly qualified to perform is not quite so difficult and complicated as it looks.

In the first place, the task of matching youth and jobs is greatly simplified when approached not from a national but from a community point of view. It is further simplified by the realization that youth, despite their individual vocational differences, can be grouped into relatively broad "families" of potential workers having similar aptitudes and skills. And it is still further simplified by the fact that the thousands of occupations can be grouped into broad occupational families which makes similar demands upon the workers who perform them.

It is known, for example, that the jobs of sand blaster in the construction industry and paint sprayer in the automobile industry require skills and abilities so similar that workers on one of these jobs can be successfully transferred to the other with little additional training and loss of skill. Coal miners make good tunnel workers, and harness workers can successfully perform the duties of the sailmaker. Thus, occupational adjustment is likely in the future to be less an effort to place each young, inexperienced worker in some imaginary perfect niche and more an effort to adjust young workers with kindred vocational endowments to any one of the large number of occupations which require a similar or closely related ability.[10]

There has been much argument as to the validity of this conception of families of jobs, at least in relation to the simplification of vocational education. Certainly the practical problems presented by oncoming youth do not seem to become easier of solution. The hackneyed phrase,

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[9] Franklin J. Keller, "The Good Life and the World's Work," *Occupations, The Vocational Guidance Magazine*, XII (January, 1934), 5-18.

[10] Howard M. Bell, *Matching Youth and Jobs*, p. 3. Washington. American Council on Education, 1940.

"a changing, complex world" seems to be as valid as it is oft repeated. When Bell later discusses the community, he says:

> One of the most striking of these facts is that the community is constantly changing. Specialists in occupational research are especially fond of two phrases—"fluid social matrix" and "changing occupational patterns." Besides having a pleasant professional ring, these phrases are packed with meaning for all the agencies involved in the occupational adjustment of the present and future generations of young workers. This social order of ours is a moving, inconstant fluid thing. And likewise the occupational distribution of the working population is subject to endless alteration and often unpredictable change. Thus, it is impossible for the progressive administrators of a social or economic program to take it for granted that yesterday's realities exist today or that today's realities will exist tomorrow. There are few eternal varieties in the labor market.[11]

In other words, the problem of providing for occupational needs is enormous in size and complex in character.

5. What Society Must Do

It has been an American tradition that any maladjustment in society can ultimately be corrected by proper education in the schools. The tradition is not as strong as it used to be, but it comes up again in a kind of tacit faith that vocational education may cure all our economic ills. Of course, it will do nothing of the kind. First, society must stop its rhythmic dancing, stop its grabbing and killing and scorching the earth. Then vocational education will really have a chance to do something for the individual. Everybody must have a useful job, one that keeps him reasonably happy and one that renders a reasonable amount of service to other people. In order to be adjusted to these jobs *all* boys and girls must have an opportunity to benefit from education that prepares for life. An essential feature of this education is vocational, which is the topic of this Yearbook.

III. The Ideal Vocational School

Vocational education is "learning how to work." An ideal is that which is conceived as the highest type of excellence or ultimate object of attainment. School is the place in which instruction is carried on. As has been frequently pointed out, "learning" to work has been largely a matter of by-education, while "teaching" to work has been a comparatively recent development. This is called vocational educa-

[11] Howard M. Bell, *op. cit.*, p. 91.

tion, and, by and large, it is usually given in or in connection with institution known as a school.

Our conception of the highest type of excellence or ultimate obj of attainment must be sharply conditioned by a respect for work a a reverence for school. Whatever may be the aspirations of gove ment, of state director, of superintendent, of principal, or even of t teacher, the result will depend upon what actually happens from d to day in a ship, on a farm, in a classroom, in an office, in a counseli room, or anywhere else within the sphere of influence of the vocatio school. Policy and practice must be directed toward converting e school and, by a process of organic integration, each school system i both a focusing and radiating point for all economic, social, and ec cational forces, such as will make the school a live interpreter of t occupational life of the day.

The adult visitor and the newly admitted pupil often comment u a functioning vocational school, in a tone mixed with doubt and a miration. "This is not *like* a school!" Those who have not visit often write or say, "You cannot learn a trade in a *school!*" The po is that "school" is only the place in which instruction is carried It need not and probably should not conform to most of the traditi of the academic school. It should be whatever it must be to ena people to learn how to work in society as it exists today.

As has been and will be frequently indicated, vocational edu tion must be provided for all the people, over a wide intelligence a age range. However, since the gap between schooling in the fun mental arts and entrance to a full-time job usually comes on what call the high-school level, the "ideal vocational school" is conceiv on this level, with ramifications in all directions, spatially and te porally. This is an attempt to point out what can really happen i vocational school, and to emphasize the fact that the trade-trai youth need not be uneducated.

1. The Goals

In its day Richards' formula said a great deal, much more t had been said before, about vocational education. However, as with shorthand expressions, it left much for imagination and developm It said nothing about the vocational guidance necessary to assure individual of training in the right skills. It assumed a sound physi or at least one good enough for the successful exercise of the s

in which it was being trained. The formula neglected personality, an exceedingly important factor in many occupations. The prospective worker was supposed to become a citizen automatically, and his appreciation of beauty in art, music, or literature was presumably incidental and unimportant.

To the extent that boys and girls spend practically a full working day in a vocational school, the school must concern itself with their adjustment to pretty much all of life. As they grow older and their contacts with school become shorter and shorter, this responsibility lessens. But the resources must be there, available for instant use.

2. Personnel

a. Vocationally Adjusted Adult Teachers for the Vocational Adjustment of Young Men and Women. Needless to say, satisfactory occupational adjustment for young people can be brought about only by teachers who have themselves been satisfactorily adjusted. Yet an overwhelming majority of all teachers have known only one job, and a goodly number are not satisfactorily adjusted to it. The advantage of the vocational school is that it draws into its personnel men and women who have been skilled workers at a variety of jobs. They know what it means to earn a living outside of the classroom. Often it takes time to develop them into skilful teachers, but the good ones learn. To be wholly successful, they must conform to all the standards of personality to which we have already referred. They must be lovers of people, especially of young people.

b. Continuous, Intimate Supervision of the Individual. As teachers of subjects, the men and women in a school of any size meet too many different boys and girls within too short a time to be able to take any continuous interest in or responsibility for all of them. This is also true of the one or two or even half a dozen counselors who may be assigned to the task. Moreover, if there are several counselors, it is desirable that each person specialize in some one phase of guidance. Nevertheless, it is essential to the success of any guidance program, in fact, of any educational program, that each pupil be the continued responsibility of someone. This is accomplished by having each teacher act in the capacity of adviser, actually *in loco parentis*. Immediately upon admission to school the pupil should be assigned to the adviser and should be responsible to him for the entire length of stay in school. Under normal conditions he may receive, on the average, one

new pupil a month with whom he would have contact for four years. There are dropouts, of course, but the very adviser relationship tends very strongly to reduce the number who leave before they have finished the course.

It is the adviser who is responsible for seeing that all the services of the school—curricular, extra-curricular, guidance, personal—are brought to bear upon each pupil in the advisory group. He provides continuity and inevitability of service. Obviously the adviser must be given time for his advisory duties. There must be definitely scheduled homeroom periods during which the members of the group can discuss occupational problems, school problems, home problems—all those problems that play upon their future work life. They help each other and the adviser helps them all.

Then the adviser must have periods when he can consult with pupils individually. If he is a real school parent, he will make appointments for further consultation before and after school. He will create opportunities for seeing his charges at play as well as at work and will get to know more about them through informal contacts than through regular school activities. And finally, at graduation, he will have the privilege and pleasure of presenting diplomas to those whom he has guided through school.

3. Contact with Reality

The sharpest criticism of the traditional school has been directed against its lack of a sense of reality. Its cloistered teachers, without experience in the world of work, transmit to their pupils only what they themselves have learned from other teachers who had no contact with life, and so on as far back as you care to go. Essentially, this has been a just criticism. Modern schools, sometimes calling themselves progressive, other times being progressive without taking the label, have attempted to break this vicious circle with considerable success. The vocational school never got into the circle because it was predicated upon life itself. A special device for maintaining contact with the reality upon which it was founded has been the so-called "advisory board on industrial education." Occupational adjustments must be adjustment to real occupations. The people who know about these occupations are those engaged in them either as employers or as employees. Sometimes the employer is a public body such as a board of education or a police department. Sometimes it is a large cor-

poration. Sometimes it is the owner of a little store, or a small farm. The worker may be an individual in a unique occupation or he may be one of the thousands in a trade union. Collectively these persons are the authorities as to the requirements for adjustment to the kinds of jobs in which they are engaged. The school must know as much as these authorities do, or nearly so. The best vocational education systems co-operate with advisory boards consisting of representatives of employers' and employees' associations.

4. "Functioning Subject Matter"

a. Richness of Opportunity. There are many too many guidance programs, organized with good intentions and embodying all the technical requirements of sound procedure, that fail miserably because the schools in which they are operated provide no opportunities for tryout of indicated aptitudes or interests. Except for some of the professional and possibly the clerical occupations, a strictly academic high school has no means of finding out whether the youngster really likes or really can do the thing he wants to do. If occupational adjustment is something more than wishful thinking, such means must be provided. Shops and laboratories, work experiences, and activities must all be available. In large cities they can be brought under one roof; in small towns it may be necessary to send pupils out on part-time into commercial shops and stores. But experiences the boys and girls must have, and any guidance program that attempts to function without them is operating in a vacuum.

b. Motivation. The adolescent wants a place in life; he wants status. He wants a job. A job is not just a sordid, mean, crassly utilitarian kind of thing, as some of our educators would imply. If it is an honorable, appropriate, profitable, public-serving job, as most jobs are or can be, it is the peg upon which all the graces of life can be hung. Changing the figure, it is a goal toward which every youngster is striving, and it is the strongest possible motivation. And how the educators would like to forget it!! To be compelled to reassert that the motivation for occupational adjustment is the future job makes one feel just a little foolish. But, in order that the children may not be offered cake instead of bread, it is necessary to seem both foolish and right.

c. Versatility. We hear much these days of the training for versatility, readiness to take any one of a number of jobs that may offer

themselves when the young man or woman is ready for employment. In view of the well-known and oft-mentioned technological changes, this is certainly a desirable goal. However, its accomplishment is another matter and is not often discussed except in the vaguest terms. The point is that people are hired only for specific payroll jobs, not for "families of jobs," and young people know that. They want training for these specific jobs, although they are quite willing to be considered versatile enough to take other jobs that require somewhat similar skills. The answer is to train for these specific jobs but to see that they are representative enough to demand a variety of skills and knowledges that young people will be glad to possess because they contribute to efficiency in that highly important specific job.

The techniques and procedures involved in organizing a school along these lines are too involved for extended explanation at this point, but the idea may be suggested by a statement regarding training in the maritime occupations. Boys come with the strongest impulsion to go to sea, usually as sailors. They are given all the skills, according to age and ability, from marlinespike seamanship to navigation. It is pointed out that the really competent sailor knows something about the woodwork, about the metal work, and about the electrical work on a ship. To this he agrees, so he spends part of his time in the corresponding shops, making or repairing ship parts, articles of wood and metal, or electrical equipment. And further, if he is someday to be a skipper, he should know something about the engine-room, something about radio, and something about cooking. So he spends a little time in each of these other departments where other boys are being prepared to be engineers, radio operators, or stewards. While he is preparing intensively and specifically for a payroll job in which he is intensively interested, he is getting the elements of other jobs. And all this has a high degree of guidance value, for he may like these related jobs better than the one he chose originally. Or, when he has had full training for the sea, he may decide that he likes dry land better, and then he has certain fundamental skills that fit very well into the work of the building-maintenance man. Many building superintendents have obtained their initial training in the engine-room of ships.

d. Individual Instruction. In vocational education, mass instruction is unthinkable. Individual analysis of the pupil naturally leads to individual instruction. This is nothing new in vocational schools.

The job instruction sheet and other devices make it not only possible but highly desirable. Promotion, advancement, or whatever term may be used to express the ideal or progress on the part of the pupil should be measured in terms of accomplishment. The rigid application of time units is out of the question. Of course, progress cannot be measured only by manual skill. Physical, mental, and social growth are all vocational assets and must be considered in measuring pupil development.

e. Live Content. Every school job should be a real job. A "passing" mark can be given only when the pupil has produced work which is commercially acceptable. Such acceptance should be determined not only by the teacher who is responsible for the instruction but by a committee of impartial craftsmen and consumers. As has been suggested, the members of an advisory commission make good examiners.

5. Appreciation of Beauty

This is the age of the streamline. Every useful object must be styled. Art must be applied to the room in which you live, the car in which you ride, the pen with which you write, the fork with which you eat, and the package in which everything comes. So it is only reasonable to suppose that the future worker, who will also be a consumer, should not only appreciate this streamlining but be able to produce it. In vocational schools he will learn how art is applied to everything he makes and how to appreciate the art in what other people make. Other people are making a great deal of music and literature and he will want to appreciate them too. The vocational school will make no apology to the general school for teaching art, music, and literature, and teaching it better.

6. Adult Attitudes and Behaviors

We used to say a good deal about character education. Not being quite sure what we meant, we have taken to breaking this down into more specific behaviors. The ideal vocational school would be one in which pupils learned to adopt adult modes of behavior, especially at work, but also at home, in the street, at movie houses, at theaters, at polling booths, in ballrooms, wherever one personality has to get along with another. The vocational school has special facilities and sanctions for that kind of education.

7. Health

Health, appropriate health, is fundamental to success in any occupation. It is obvious that each job makes its own demands. If one walks all day he has to have good feet and a good heart. If he sits all day neither feet nor heart need be perfect. And so on. The school's obligation for occupational adjustment leads to careful examination, relentless follow-up, and the removal of all remediable defects.

8. Vocational Guidance

Many vocational schools have no programs that could, by any stretch of the imagination, be called vocational guidance. The assumption is that the pupil has made his choice before requesting admission, that if he succeeds in his work he will remain in school, if he fails, he will leave, voluntarily or by request. The ideal vocational school could operate on no such program nor could it accept the implied philosophy. The necessity for continuous, intimate supervision of the individual through the offices of the adviser has already been emphasized. This is fundamental and it might almost be said that, given an effective adviser, everything else would take care of itself. However, even the most fanatical adviser must operate through orderly processes. These include appropriate provisions for the admission, testing, placement, and follow-up of pupils; continuous diagnosis and prognosis for each individual; flexibility in the pupils' schedules to allow for change of objectives; and any necessary welfare services to enable needy pupils to attend school. The ideal vocational school establishes them.

9. Research

Research seems to be a big word for a vocational school. Yet it belongs there as well as in the university. It is research applied to the school population and to the trade world into which they will soon be catapulted. It must be directed, on the one hand, toward the discovery of the characteristics of its pupils and, on the other, to the continued revelation of occupational conditons. As has been reiterated, pupils must be analyzed, guided, programmed, placed, and followed up as individuals, but all these individuals, along with the occupations in which they are being trained, exhibit trends, tendencies, and groupings that are significant for the school population as a whole as well as for each individual in it. It is the business of research to deal with this congeries of facts in such manner as to upgrade the entire program.

10. Part Time and Adults

Up to the present time our ideal vocational school has been gaited to the needs of adolescent boys and girls who are bridging the gap between fundamental elementary education and the full-time job, principally on the so-called secondary-school level. It has been easier to write about this program in terms of the large group concerned. However, no vocational school could ever arrogate to itself the appellation of ideal unless it were prepared to admit men and women of any age at any time of the day, for training in any trade in which there existed a demand for workers. Such a school might very well operate for twenty-four hours a day in times of peace as well as in times of war. In this description one will readily recognize the so-called opportunity school made famous in Denver. There have been others. Practical limitations prevent the full realization of this ideal but also promote a very lively satisfaction on the part of adults who, for one reason or another, wish to make a better adaptation to vocational life. The difficulties of administration, as well as the apathy and ineptitude of many administrators, have prevented the full realization of the possibilities of part-time education, whether conducted as evening school, continuation school, co-operative school, or under any other designation. Yet, from many points of view, principally social and psychological, part-time education is the most profitable and the most richly rewarding of all forms of vocational education. No ideal vocational school could be without it.

11. Look At Your Pupils with Open Eyes

Fifty years ago Barrett Wendell, professor of English at Harvard College, delivered a series of lectures at Lowell Institute in Boston and later embodied them in the best book on English composition to be written during that entire half century.[12] The book is so good because Wendell was not primarily concerned with verbal tricks but rather with English as an expression of life in terms that are warmly, sympathetically human. One of the reasons for weakness of such expression he lays to an "imperfect understanding of the matter in hand." At several points in the present chapter we have alluded to problems of style. This Yearbook is a kind of problem child in style,

[12] Barrett Wendell, *English Composition*. New York: Charles Scribner's Sons, 1891.

for it must convey to its readers, somehow or other, a lively picture of a very real and very complex situation. However it will have succeeded depends upon the rapport between writers and readers. To the extent that both writer and reader have a perfect understanding of the matter in hand, the result should be favorable. Much of the failure of all types of education, no less of vocational education, can be laid to the failure of teachers to see in each of the youngsters something new, something different, something fresh, something exciting, something challenging to an ideal vocational school.

A boy, a girl, a human life in all its inexhaustible subtlety; a teacher, an artist! Nothing is a bore, if one can only bring oneself to look at it with open eyes!

SECTION II

CURRENT PROBLEMS

CHAPTER II

RELATION OF VOCATIONAL EDUCATION TO GENERAL EDUCATION

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I. INTRODUCTION

The urgent demand for technically trained workers for the war industries has made everyone conscious of the importance of vocational education. New schools have been developed and the programs of existing schools have been expanded to meet this demand. Youth surveys have shown that many young people who are unable to secure employment have not been trained for useful work. Hence, there has come the demand that the schools give more attention to vocational education and vocational guidance. We have never before witnessed as great an effort to strengthen and to extend the program of vocational education in the schools of this country.

During the time of this increase in demand for vocational education, we have seen a comparable development of interest in general education. Many high schools and colleges have reorganized and extended the program of general education, and professional journals have contained many articles describing new practices and interpreting the importance of general education. One of the recent yearbooks of the National Society for the Study of Education was devoted to this theme.[1] It can be said that the past decade has been a period of unusual activity and advance in general education.

In this chapter we are dealing with two robust and advancing aspects of the educational program. Traditionally, vocational education and general education have at times been in competition with

[1] *General Education in the American College.* Thirty-eighth Yearbook, Part I, National Society for the Study of Education. Bloomington, Illinois: Public School Publishing Company, 1939.

each other. While many leaders in vocational education have emphasized the great importance of vocational education and minimized the importance of general education, many of those in general education have placed great emphasis on the general studies and belittled the importance of vocational training. This conflict has continued over the years. Several quotations from a recent article in *Harper's Magazine* will indicate the type of contrasting positions presented to the American people. Mr. S. R. Livingstone is quoted by President Hutchins as saying:

> I think most of us will agree generally with this broad statement—that the purpose of education is primarily and basically to equip young people with knowledge and skill by means of which they can most effectively contribute to the production of food, clothing, shelter, and luxuries which go to make up our standard of living. While knowledge of such fields as the arts, language, philosophy, history, and others is of importance to society, still I believe these fields are secondary, at least at this time, to the production of the material necessities and luxuries, as society is now demonstrating that it cannot be happy without an abundance of the material things.[2]

In contrast with this position is the statement by President Hutchins:

> Having a regular job and getting paid for it may seem like an adequate ideal in early adolescence. When you have achieved it you understand that it is merely a necessary condition of life, not life itself. The problem of the purpose and meaning of life remains, but if your education has not helped you solve it, it has been no education at all. It has not been the kind of education that can help you towards happiness. It has not been the kind that can make you capable of freedom.[3]

The conflict between vocational and general education has, at times, been associated with an unfortunate dualism between mind and matter, or between mental and manual. The quotation from Hutchins implies that intellectual training cannot be given in vocational courses. Actually, students can be taught to think—in fact are being taught to think—in vocational classes. While some vocational training can be criticized for its almost exclusive emphasis on skills, a general indictment is most certainly false. The best vocational training involves a combination of the mental and the manual, and the two types of work should not be considered in opposition to each other.

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[2] Robert Maynard Hutchins, "Education for Freedom," *Harper's Magazine*, CLXXXIII (October, 1941), 514.

[3] *Ibid.*, 519.

Vocational educators have frequently emphasized the lack of thoroughness and exactness in some general-education classes. Some of this criticism is valid. Greater emphasis might well be given to quality in general education, but we should avoid excessive generalization from the low spots in the general-education program. First-rate quality is expected and secured in many classes and schools. It should be recognized also that general-education programs serve all students. Students of low-level ability are unable to attain high levels of excellence, as vocational teachers well know from their own experience when they have been required to admit to vocational classes the students of lower ability.

Fortunately the conflict in thinking has not been universal. Increasingly, men have come to see that these two aspects of the educational program are not in essential conflict but, instead, that they supplement and support each other. Two quotations from the Yearbook of the National Society for the Study of Education on *General Education in the American College* will reflect a more harmonious relationship.

> The role of occupational experience in general education is still an unknown one, but scattered throughout the country are educational institutions above the high-school level actively engaged in attempts to make occupational experience a vital part of the total educational program of the school. Whether one or all of these institutions will ever solve the problem of the relation of occupational to general education is unpredictable, but it seems, if the solution is found, it will be in the direction of an integrative form of education conceived in terms of the present and future needs of the individual student. If, as frequently claimed, education is concerned with the individual's progressive emergence as an integrated being for whom life has direction and meaning, it must recognize that, in the normal course of an individual's life, occupational and nonoccupational experiences are woven together into a total life pattern, not into two patterns. Sharp breaks of this unity both during and following formal school may lead to unfortunate personal maladjustment.[4]

The support which general education may bring to vocational education has been well expressed in a statement by Earl J. McGrath. After a review of the developments in professional education for the various professions by leaders in the different fields, he summarizes as follows:

[4] Mark Ellingson, George Wilson Hoke, and L. L. Jarvie, "Occupational Motivation in General Education," *General Education in the American College, op. cit.*, p. 277.

Each professional group has in recent years recognized that the individual must be more than a professional practitioner. He must also be a citizen, and as such he must understand the complex society in which he lives, and the part he must play in the solution of the problems facing that society. In addition, more attention is being given to the growth and development of the individual into a mature adult capable of living a satisfying life in adjustment with other members of the social group. It is recognized that these capacities for effective citizenship and a satisfying personal life cannot be achieved solely through professional study, however thorough that may be.

Professional groups are also aware of the important part general education must play in the preparation of the individual for competent professional service. As several of the contributors to this chapter point out, highly trained specialists seem to be at an advantage in early professional life since they are prepared to do well a restricted number of routine tasks. But the rapid development of new techniques and new principles soon gives an advantage to those who have been broadly trained and who have learned the theoretical basis of professional work. Moreover, it is recognized that those who have a broad general experience are better able to see the place of their own professional activity in the culture of which they are a part. This point has been made repeatedly by engineers, lawyers, and social workers.[5]

The suggestion that vocational and general education are complementary is such an inviting conception that it will be further explored before turning to a consideration of a program for the coordination of vocational and general education.

II. Contribution of General Education to Vocational Education

It is sometimes said that general education is not practical or useful. If such a statement is true, the education referred to is not desirable as general education. If the behavior of the student is not improved because of an educational experience, certainly that experience cannot be justified. Modern programs of general education have been focused on student needs and behavorial objectives, thereby eliminating much of the nonfunctional material which has been of little value to students and caused some people to consider general education as useless. When vocational educators criticize general education they frequently use as illustrations courses and materials which would be criticized as severely by leaders in general education. Desirable general education makes a contribution to the life of the individual. Other-

[5] Earl J. McGrath, "General Education in Professional Education," *General Education in the American College, op. cit.*, pp. 219-20.

wise, it has no justification. The following statement indicates some of the contributions it should make to vocational competence.

1. Understandings, Attitudes, and Skills

The understandings, attitudes, and skills emphasized in general education are essential for vocational success. The vocational competence of an individual is influenced not only by the special skills and understandings required to carry on the particular processes of the occupation. The capacity to read, to write and speak effectively, the possession of a well-integrated and stable personality, the possession of good health and a well-developed physical body, the capacity to analyze and deal with a problem realistically, the capacity to use the techniques of analysis and the sources necessary to secure information required for effective handling of a problem, and the capacity to work effectively with others are only some of the outcomes of a program of general education which very greatly influence the success of an individual in his vocation. It is a mistake to assume that a vocational-education program furnishes the only training bearing on the performance of an individual in an occupation. In fact, the training he has received in his general education may at times be as important, or even more important, in determining his occupational success or failure as the training which he secured in the vocational courses. Admittedly the outcomes of general education are more important for some occupations than for others. The leadership positions require a grasp of the total culture and an appreciation of the interrelationships of different aspects of our life not demanded of the more routine workers. Those who are called upon to work primarily with people and to understand their interests, motives, and actions, must have a breadth of experience and a variety of interests not required of the individual who works chiefly with materials. It is important, however, that we keep in mind that the worker, even though not engaged in one of the "higher" occupations, is an American citizen. With the growing influence of organized labor, the education of the laborer must take into consideration not only the skills required in the operation of the machine but must contribute to the development of the competence demanded of a labor-citizen.

2. Interests

Interests developed in general-education programs in the elementary, junior high, and senior high schools may lead to vocational

objectives. Programs of general education, especially in recent years, have placed a great deal of emphasis on the development of the individual's interest. While there is a concern with providing all students with a common education, there is uniformly a recognition of the importance of identifying and cultivating the special interests and talents of each pupil.

The core course in elementary and secondary schools is an excellent example of a plan of curriculum organization which provides for recognition of the interests, problems, and needs of students and the development of interests and abilities which can be given expression and use in society. The Ethical Culture School in New York City has used the dominant interest of the student in shaping his educational program. This interest is encouraged, developed, and disciplined, and becomes the focus for both his general education and his vocational direction. Bennington College also recognizes the dominant interest of the student as the basis for the general and the vocational education. Finding and developing a dominant interest is excellent procedure for vocational guidance and vocational education. It is equally desirable for general education.

It is important, too, to note that the interests of students take form in connection with the study of the production of goods and services required by our people and the contributions of the various groups of workers to our common life. In this study, attention is directed to the men and women who are producing the goods and rendering the services. Such a study naturally gives an understanding of the importance of the work done in the various vocations and some idea of the nature of the work. In some schools, either in connection with the program of general education or under the label of guidance, a careful analysis is made of the nature of the work done by different groups of workers. Vocational students whose choices of vocational objectives are based on such a background of experience and study have an orientation of great significance for continued vocational satisfaction and vocational success.

3. Recreational Interests and Activities

Emphasis on recreational interests and activities (hobbies) may result in a second line of specialization which, if the individual has sufficient talent, may enable him to perform on a sufficiently high level to secure employment in the field. Many individuals continue an active

interest in some activity as a hobby and develop a high level of proficiency. Such a development of first-rate artistry is thought to be desirable in a recreational program. The difficulty at times of securing employment in the field of vocational preparation and the shift in employment conditions and opportunities over the years not infrequently make it necessary for the individual to turn to a second field to secure employment. While it is not likely that a large proportion of people will use the hobby in the manner here suggested, it will make a very important contribution to some. A still greater number might be served if a second interest were deliberately cultivated and maintained.

4. Courses Related to or Concerned with Skills

Some courses in general education are closely related to or directly concerned with skills and understandings required for certain occupations. Discussions of general and vocational education sometimes seem to imply that courses offered in the general-education program bear no relationship to the activities carried on in the various occupations. Such a conception would be greatly in error. In fact, probably all the courses in general education have a very direct relationship to the work done in some occupations. The training in art may represent a beginning of a more extended study for an art career, or it may lead directly into occupations in which drawing, lettering, painting, and designing are required. The experience with music may lead to specialization in music for an occupation. Work in the social sciences may be a little less direct in its application to vocational work than is true for some subjects, but those planning a career in public service make direct use of much of the training in this field. All of the courses in general education have a vocational use for those who look forward to teaching. Art, for instance, is directly applicable for those who plan to teach art. In addition, the emphasis now being placed on a broad general education for all teachers causes the total group of general-education courses to have a direct vocational application for those planning to enter teaching. So direct is the vocational value of the general-education studies for some occupations that it is difficult to conclude that the more direct specialized studies in these fields are much more applicable than the closely related studies in general education.

The most confusion as to what is general education and what is

vocational education has existed in the industrial field. Leaders in vocational education have therefore faced the difficult task of developing an understanding by the public and by school administrators that the typical industrial-arts instruction is not adequate for training for industrial occupations. While being sound in this conclusion, the discussions have at times failed to recognize adequately the vocational values of industrial-arts experience and the general-education values of the more specialized work in the more strictly vocational courses. Sometimes it is suggested that courses are not vocational unless they conform to some particular plan of organization. While such a basis may be adequate for a working classification of courses, such a convenience in operation should not cause us to overlook the possibility of other forms of vocational preparation of considerable value to one entering an occupation. Industrial-arts instruction, for instance, makes very important contributions to training for certain subsistence occupations, such as agriculture and homemaking.

It should be pointed out, too, that general education and specialization are not in conflict. When an individual continues to study within a field, he naturally takes more advanced and more specialized courses. Such concentration of study along the lines of the continuing interest of the student is fully accepted as desirable in programs of general education. In fact, some programs of general education, such as those at Bard College and Bennington College, start with these specialized interests rather than with broad survey courses.

5. Occupational Orientation

The program in general education should give students an orientation in the occupational world. Such an orientation is important as students should have a definite vocational objective when undertaking the more specialized vocational training. The exploration and study of vocational opportunities and the exploration and development of vocational interests are important but difficult assignments. Students should have an understanding not only of the contribution the goods and services produced by the various occupations make to our common welfare, but should also have a rather clear conception of the nature of the work done and of the requirements for successful participation in the occupations. Specialists in vocational education have pointed out that students are sometimes given erroneous conceptions

of the occupational world in exploratory and orientation courses when workmanlike quality of work is not done or when the teachers themselves do not have an accurate conception of what the occupational conditions are. The program of orientation should also give an appreciation of the dignity and importance of all useful work. There is danger that the general-education teachers with limited contact with occupations other than teaching will exaggerate the advantages of the white-collar occupations.

III. Contribution of Vocational Education to General Education

Vocational education is offered primarily to develop competence to perform successfully in an occupation. If a program does not satisfy this criterion, it cannot be justified. Acceptance of this viewpoint, however, should not prevent the recognition of the important contribution which the experience of students in vocational courses can make to the achievement of general-education values. Listed below are some of the more important contributions.

1. Consideration of All Aspects of the Performance of the Individual

Adequate vocational education gives consideration to all aspects of the performance of the individual in the vocational situation. This includes attention to capacity to read, write, and speak effectively, capacity to co-operate with co-workers, emotional stability, health, and other characteristics which affect the success of the individual in a vocation. A vocational situation provides a setting in which the abilities and attitudes which were developed in both the general and vocational studies are applied. The effective vocational teacher will give attention to the performance of the individual in all these respects and will utilize the activity of the student to improve further the abilities that are important in successful participation in the occupation. While the vocational teacher is principally concerned with the performance of the student in the vocational situation, his responsibility is not restricted to vocational knowledge and skills. A wise teacher will recognize that the various aspects of the personality of the student will affect his achievement and, hence, his role as a teacher is broader than his vocational speciality. He should be concerned not only with the teaching of his special subject matter but also with the development of the student.

2. Vocational Skills May Also Be Consumer Skills

Many vocational skills are of general use to an individual even though they are not used occupationally. The individual with electrical training, for instance, finds many occasions for the use of that training in the life of the home. One well trained in accounting or business will find such training useful in the management of his own affairs. While there is wide variation in the extent of general application of the skills involved in the different occupations, there is considerable opportunity to use these vocational skills in one's activity in the home and in the community.

3. Social Values

Adequate vocational education includes consideration of the social problems connected with the occupation. This includes building an understanding of the work of organized labor, the participation of government in the protection of the rights of labor, management, and the consumer, the economics of salary determination, and the social and cultural implications of the goods and services produced by the worker. An adequate program of vocational education in a democracy will place a great deal of emphasis on the training of the worker-citizen. Over the years, there has developed an area of economic citizenship. It is not enough to train a person to operate a machine efficiently. The worker is, in addition, part of an economic and social organization with responsibilities for participation in the control of business and industry. This growing power of labor must be recognized in a program of vocational education. While the general-education program will give attention to problems of economic citizenship, such training should be thought of as an essential part of a comprehensive program of vocational education.

4. Work Experience

Work experience is being recognized as an important type of general education. The lack of opportunity for work in the home in urban communities, the delay in entering gainful employment, and the need of building an appreciation of work have combined to develop on the part of educators an acceptance of work experience as a part of a comprehensive educational program. The work of the National Youth Administration in providing for out-of-school youth has given concrete illustration of some of the things that might be done. It should be noted that this work experience has been provided to give vocational

training as well as general education. Such work experiences, when properly handled, involve actual production of goods and services of social value, are adapted to the maturity level of students, involve a development of skills of continuing use to the individual, and ordinarily involve the receipt of money for the services which are rendered. To realize the full values of the work experience, it is important that the work be combined with supporting study in school.[6]

5. Specialization

Specialization in training has a place in a program of general education even when vocational use is not made of the specialty. Such specialization provides for thoroughness, exactness, discipline, and fine artistry not possible without considerable concentration of work. This conception of general education provides a place for the more intensive study which is ordinarily associated with vocational training. Opportunity is provided in schools for students to specialize in order to achieve general-education ends. This fact is noted to support the suggestion that the specialization which is associated with vocational training may also serve a general-education purpose and not to justify vocational courses which do not lead to placement and use of the training in an occupation.

6. Motivation

The vocational objective may constitute a support for the motivation of general-education studies. The goal of preparing for a job may appear more concrete and definite than the objectives of general education. Also the dependence of the individual on his earnings for a livelihood makes it easier to build an appreciation of the importance of vocational competence. As the requirements for his chosen occupation become more evident and the need of a broad general education is connected with a desirable vocational competence, a student may attach greater importance to the general-education studies.

IV. The Nature of General and Vocational Education

The foregoing discussions of general and vocational education have indicated the close and supporting relationship of the two phases of

[6] Paul B. Jacobson (ed.), *Youth at Work*. Bulletin of the National Association of Secondary School Principals, No. 99, May, 1941; Warren C. Seyfert and Paul A. Rehmus, *Work Experience in Education*. Cambridge, Massachusetts: Graduate School of Education, Harvard University, 1941.

education. General education may contribute to vocational competence and vocational education may have general-education values. But what is vocational education? What is general education?

If courses and activities are developed to prepare students for specific occupations, they are, of course, vocational in nature. The prominence of the vocational objective and the choice of content and method to develop the desired vocational competence provide the principal basis of classification. The fact that educational objectives other than the vocational might be served by these courses does not deny their vocational purpose and nature.

In the planning of courses in general education, stress is given to aspects of life other than the vocational and to skills, understandings, and other characteristics of wide application. Personal and social problems are dealt with. There is concern about such items as self-realization of students, home relationships, civic responsibility, individual orientation, personal living, immediate personal-social relationships, health, and personality development. Many of the items in a program of general education make up a common education for all students. In addition, the special talents and interests are recognized and developed. This phase of general education is specialized in nature; hence, one cannot properly consider general education as being in contrast with specialized education.

The task of differentiating between general and vocational education is not as simple as the two foregoing paragraphs would appear to indicate. Certain subjects are offered to give both general and vocational education, depending on the purpose of the student. Typing may be taken by a student to prepare to be a typist or secretary. Another student may take typing to develop a skill for his personal use without reference to vocational application. Commercial, industrial, and household arts may be studied by some students for vocational purposes, by others for nonvocational ends. Latin may be taken for its contribution to an understanding of English, a general-education objective, or it may be taken by a prospective doctor for its contribution to his understanding of medical terms. In this latter case, a course designed primarily for general education is made a part of a pattern of courses of an individual student to prepare him for a vocation.

Courses which are used by some students for general education and by others for vocational education present a special difficulty. There is danger that in the effort to serve both objectives neither one

will be well served. The actual needs for vocational competence may not be satisfied and much time may be spent on materials without functional vocational application.

There has been an excessive and unfortunate division between general and vocational education in the past. Present-day recognition of the close relationship between them, however, should not blind us to the actual differences. If courses are taken by students to prepare them for a vocation, such courses should meet the requirements of that vocation. If students take the same courses for general-education purposes, we should be equally rigorous in insuring adaptation to the needs of the students and the purposes for which the courses are taken.

V. A Program for the Co-ordination of Vocational and General Education

The foregoing discussion of the relationship between general and vocational education has suggested some of the features of a program for the co-ordination of these two major divisions of the educational program. The point of view expressed in the first three sections should be kept in mind in reading the following proposals, since only brief justification can be given for the proposals which are presented.

1. Recognize Student Interests and Needs

Provide for the recognition of student interests and needs in the elementary school, junior high school, senior high school, junior college, and college. Such an adjustment would insure giving attention to the most important problem in the life of the student, and would reveal and develop special interests and talents. Persistent interests that are supported by considerable talent furnish the basis for vocational choices. This adaptation can be made within the "core" or other courses and by use of elective courses. Clubs and other extra-curricular activities may serve a similar purpose.

2. Develop a Functional Program of General Education

Develop a functional program of general education which bears on the problems of the individual as he participates in the life of the school, the home, and the community. Such a program will contribute to the orientation of the student in the world of work. It will give attention to the development of useful skills, which skills may or may not be used later vocationally. One explanation of the contrast be-

tween vocational and general education in the past has been the lack of connection of much of the general education with the problems of living. Hence, the program of vocational education with its emphasis on practical equipment for a vocation was in dramatic contrast with the absence of practical emphases in the general-education courses.

3. Provide Productive Work Experiences

Provide greater opportunity for productive work experiences for all students which will contribute to the objectives of both vocational and general educational. There are many opportunities within the school itself for students to do work which involves production and contribution to the life of the school. Community projects have been set up which provide such experiences. Such work experiences should, in so far as it is possible, be adapted to the maturity level of the student, should make a social contribution considered to be important by the school or community and by the student, should involve skills and understandings which will have a continuing usefulness to the individual, and should, if possible, involve remuneration to the student for his services. Such work activities should approximate actual work conditions and should give the student an appreciation of what real work is like.

4. Recognize the Vocational Goal

When helping students to define life goals in the guidance program, recognize the vocational goal along with the others and the interrelationship among the various goals. An effort should be made, also, to achieve a balance between the aspects of life represented by concerns of general and vocational education. It is important that persons who fill the guidance positions have sufficient breadth of training and experience to enable them to give a broad, balanced, and accurate interpretation of life and education.

5. Recognize Needs of both General and Vocational Education

In the program of a secondary-school student, provide for the recognition of both general- and vocational-education needs, giving greater emphasis to general education in the early years of the secondary school and increasing emphasis to more specialized vocational training in the later years, but with no sharp break or division between

the two. In the later years of the secondary school and in college there is greater continuity and permanence of interest, making conditions more favorable for the student to pursue a line of study over a period of time with satisfaction and success. If a student has not yet made a definite vocational choice, he should explore the various possibilities in the school program to discover the extent of his talents and to define his interests.

It is here suggested that there be some recognition of the general-education activities throughout the life of the student in school, with a very limited emphasis in the short-term intensive vocational courses taken before securing employment. Students should be encouraged while in school to live a well-balanced life, including opportunity to pursue some of the cultural activities which they have learned to enjoy. It is desirable that we think of the period in school as being an important growth period in the life of the individual, and not merely one of preparation for a phase of his later life. During the later years of the training of the student, the specialized vocational training might appropriately be the dominant emphasis of the student's program. The same position would be tenable when considering the programs of education for the professional field. While the major emphasis on general education will usually continue only through the junior college, with specialization in the senior college and in the graduate school, there is justification for some recognition of general education during the time of major emphasis on specialized study.

6. Encourage Co-operation between Teachers of Vocational and General Education

Encourage the co-operation of vocational- and general-education teachers in developing the general policies and the general educational plans for the school to insure a balance between these two aspects of the education of the student. Frequently each group of teachers operates within the limits of its own speciality. Such a plan of operation tends to preserve and accentuate the differences already existing within the faculty. If each faculty member feels a responsibility for co-operating with all his colleagues in planning a comprehensive program, recognizing, of course, a heavier responsibility in the field of his specialization, the total educational conception operative in the school will more nearly reflect the different experiences and insights of the individual staff members. In time, the individual teachers will broaden their inter-

ests and understandings and be able to think more nearly in terms of the total life of the student and the total program of the school.

The relationship between vocational and general education would be improved if more general-education teachers made contact with the world of work, and if vocational teachers had more general education. When the vocational program was first developed it was essential to turn to the trades and to the industries for skilled workers for teachers. There was no other source. This procedure, however, led to the selection of teachers who themselves had very little academic education. Their task of fitting into a high-school faculty made up of college graduates was not an easy one. The teachers in general education not infrequently had spent their entire lives in school either as students or as teachers, and had little or no contact with and little understanding of the work in the occupations other than teaching. It is readily understandable that general-education teachers and vocational-education teachers had difficulty in appreciating each other and in achieving effective working relationships.

The central problem of this chapter will be greatly simplified and eased as the general-education teachers make more contact with occupations other than teaching and understand better the contribution of the different working groups to our common life, the nature of the work they do, the life that the workers live, and come to know the various groups as persons and fellow citizens. It will be simplified and eased, too, as vocational teachers have, in addition to their vocational specialization, sufficient general education to enable them more fully to participate in the cultural life of the community. This broadening of the teachers in both groups would eliminate some of the conflict which exists and establish a better basis for co-operation of the entire staff in planning the total educational program for the youth of a community.

7. Develop Comprehensive Secondary Schools

Develop comprehensive secondary schools with such vocational specializations as the vocational objectives of students and the needs of the community justify. There is value in bringing together in the same school the vocational-education and general-education activities and in bringing into co-operative relationship students who are preparing to enter semiskilled and skilled occupations and students who are planning to enter the professions. The suggested adaptation to

student interests and community needs will lead to some degree of concentration on the cluster of occupations predominant in the immediate locality served by the school. Certain occupations may be trained for in only one of several of the so-called comprehensive schools in a city and students from other school districts may travel to this school to secure such training. This plan of organization brings vocational and general education into a close interacting relationship. It allows vocational students to continue some participation in the general-education activities. In the noncourse activities at school, including musical activities, dramatics, clubs, athletics, and other extra-curriculum activities, it is very desirable for vocational students to mingle freely with other students and participate fully as citizens of the school community. It is unfortunate when a group of students feels set apart and lacks the experience of full participation in the life of the school. Students who will enter commercial and industrial occupations should learn to feel a responsibility for the welfare of the entire community and develop the disposition and capacity to participate effectively in co-operation with all social groups in these general community activities.

8. Organize Specialized Vocational Schools for Intensive Training

The foregoing discussion of the comprehensive secondary school should not be interpreted as prejudicial to the specialized vocational school as the agency for intensive training immediately prior to entering work. Such a vocational school or opportunity school has responsibility to provide for the retraining of adults, for short-term intensive training for occupations now requiring extended periods of training, for training for occupations requiring extensive and expensive equipment, and for training for the occupations which involve co-operative part-time work experience, combining work on the job and training in the school. There will naturally be a reduced emphasis on general education in a school of this type. However, the vocational school should not be entirely barren of opportunity for general education. Some of the earlier objections to the vocational school were associated with the substitution of the vocational-school program for the general-education program of the high school. With the advancing age of entrance to occupational life, and the continuation of students in school for a longer period, it is possible to think of the specialized vocational

training of the vocational school as being to a considerable extent post-high-school work. In some situations this type of school might serve a region or a section of a state. The area to be served by the school should be determined by the variety of factors which enter into the organization of a vocational school.

9. Provide Unified Administration

A desirable relationship between vocational education and general education is encouraged when both aspects of the educational program are under a unified administration. The board of education and the superintendent of schools should be responsible for developing a full, comprehensive educational program for the community. There have been times in the past when it appeared almost necessary to build a separate school system for vocational education because of the lack of understanding of the problem by the academic-minded school administrator and by the concern of the board of education with general-education affairs. Real progress has been made in developing an understanding of the vocational-education needs on the part of the general administrator. The conditions which caused the early leaders of vocational education to lose confidence in the general educators have, to a considerable extent, been removed.

There are a variety of administrative relationships in the operation of a school system which affect vocational and general education. In the administration of guidance, it is sometimes contended that the director of guidance should work under the general direction of an assistant superintendent of schools in charge of vocational education. In the judgment of the present writer, such a position is untenable. The guidance director should be a special staff member with working relationships with the administrators responsible for elementary schools, secondary schools, vocational schools, and adult programs. The guidance staff should not be thought of as belonging in the field of one of these administrators more than of the others. Also open to question is a plan which provides for an assistant superintendent of schools in charge of vocational education and another assistant superintendent of schools in charge of secondary schools. Part of the program of the secondary schools will be vocational in nature. The assistant superintendent of schools in charge of secondary schools should be responsible for the entire program of the secondary schools.

Sometimes the curriculum department is responsible only for the

general-education curriculum and not for the program in vocational education. This limitation of function reflects a separation of vocational and general education and tends to perpetuate an objectionable dichotomy. It must be admitted that many of the leaders in curriculum development have been more adequately equipped for leadership in general education than in vocational education. The solution of this problem, however, would appear to be the development of a curriculum-department staff, including in the curriculum-department staff persons with competence in the various divisions of vocational education. Such a plan would tend to bring vocational- and general-education curriculum leaders into close collaboration.

Persons interested in seeing the development of a unified educational program should be encouraged by developments in recent years. There has been a growing tolerance of the different educational groups and there is a recognized effort on the part of specialists in vocational and general education to establish effective co-operative relationships. In many situations these efforts have met with satisfying success. In the period ahead it is not unlikely that we shall not be as much concerned as we are today about the question as to whether or not a particular feature of the educational program is vocational or general. The more important questions will be: Is it useful? Does it contribute to the development of the individual? Does it enable him to serve social needs more adequately?

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CHAPTER III

ADMINISTRATION AND SUPERVISION OF VOCATIONAL EDUCATION

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I. INTRODUCTION

The preceding chapters have discussed in some detail the philosophy which in general underlies the thinking of all the authors concerned with the preparation of this Yearbook. Chapter ii, particularly, has emphasized how vocational education, far from being in opposition to general education, is in fact complementary. More accurately it may be stated that education is a coin, one face of which is vocational, the other nonvocational; for some the latter may be avocational, for others intellectual self-improvement, for still others purely leisure-time activity. Without both faces there is no coin, no legal tender, no true education. Even more accurately it is true that what for one man may be liberal education is for another indubitably vocational education. Indeed, it may be one or the other for the same man or woman, depending on time, place, and circumstances.

This chapter moves on from these introductory but basic discussions to a consideration of the scope and organization of vocational education. In simple terms and as concisely as possible the chapter aims to present the principles of administration and supervision which should be operative in any program of vocational education. Such principles are not new. They typify good practice in business and industry as well as in schools. The virtue of their reiteration in this volume lies in the emphasis given to the responsibility placed upon the general administrator and in their application to the peculiar problems in the vocational area.

Two fundamental considerations, therefore, underlie all that will be presented in this chapter:

First, the superintendent of schools of any community, large or

small, is the administrative head of the school system, *including vocational education.* He should be as well informed concerning the principles and problems of vocational education as he is concerning the other aspects of his total responsibility. His attitude toward the program of vocational education and the consequent degree of understanding and support which he gives that program determine in large measure the effectiveness of the attack which the community will make on the problem of educating youth and adults for self-support.

Second, in addition to wisdom and insight concerning the total program of vocational education, the superintendent must possess the ability to choose capable co-workers to administer and supervise the many details involved in carrying out an effective program and must be willing to delegate a large measure of authority and responsibility to those whom he chooses.

It is with the second consideration that this chapter is mainly concerned, for the remaining chapters of the volume are pointed toward giving the superintendent the beginnings, at least, of the wisdom and insight he needs in order to make intelligently the decisions and recommendations which devolve upon him as chief executive of his school system.

II. Certain Basic Assumptions

It is appropriate to introduce this chapter with a brief statement setting forth the basic philosophy from which emerges all that the writer will suggest concerning the administration and supervision of vocational education. This philosophy of vocational education may be stated in terms of certain assumptions regarding the place and nature of education for work in our social and economic order.[1]

1. Work

The first assumption is in reality a definition. The term "work" includes all gainful occupations. Applied to a community, the work done by individuals means all the various kinds of work carried on by all the men and women who labor in that community. The work may be simple with respect to both the duties to be performed and

[1] The material which follows in this section was adapted from an introductory statement prepared by the author for chapter vii, "The Preparation of Youth for Work," *The Report of a Survey of the Public Schools of Pittsburgh, Pennsylvania,* made by the Division of Field Statistics, Institute of Educational Research, Teachers College, Columbia University, in 1940.

the knowledge and skill required, as is true of such an occupation as washing automobiles; or it may be extraordinarily complex, requiring not only knowledge and skill but judgment of a high order, as is true of surgery or journalism at their highest levels. A program of vocational education which has grown up haphazardly or imitatively is almost certain to be based on a narrow and inadequate definition of work itself. The definition in any community should be as comprehensive as is the scope of the work actually performed by the men and women who earn their living in that community.

2. Occupational Orientation

This is not to say, however, that public schools should offer training in every one of the thousands of occupations represented in almost any town or city. It does lead, however, to the second assumption: The public schools should provide occupational orientation and vocational guidance for all who come under the purview of these schools. It must never be forgotten that all those in attendance upon schools at any given time come from the homes of persons who are actually carrying on all the work being done in the community at that time and that in general terms these pupils, when they leave the schools, will themselves carry on all the work of the community. Therefore, education for work in its guidance function, if it is to be effective, can be concerned with nothing less than the complete occupational picture presented by the community; a picture, let it be noted, which will be constantly changing as the community itself changes. There can be nothing static in a program of vocational education.

Implicit in this second assumption, too, is the inclusiveness of the vocational guidance function. It is for *all*—for children in the elementary schools, youth in secondary schools, men and women in adult classes; for those of limited capacity as well as for those gifted by nature and environment; for the crippled, the hard-of-hearing, the partially or wholly blind, as well as those who apparently are normal in every way. Thus, education for work in its guidance function is legitimately a part of the program of the public schools from the earliest grades to and through college or university, for no man escapes the necessity of choosing what he shall do to earn his living or of determining how he shall prepare himself for adequate and effective accomplishment in the field or fields in which he will dwell occupationally during his total working life.

3. Occupational Education

The third assumption follows logically. There are many occupations for which the schools can provide practically complete occupational training; there are many others for which it is neither expedient nor possible to offer even partial training; and there is an almost illimitable area in which schools and industry or business can co-operate with extraordinary effectiveness. A clearly conceived program of education for work will always be developing in terms of these considerations. The first possibility naturally finds its best exemplification in the full-time vocational schools or classes in which such occupations as agriculture in its varied phases, printing, cosmetology, automobile-mechanics, stenography, or homemaking are taught. The second will be conspicuous by the absence of any such occupational training as is suggested. The third, the co-operative type of occupational training, is literally without boundaries, dependent only on the imagination of those responsible for its development and the degree to which business and industry can be persuaded to play their part in the program.

It is in the area covered by this third assumption that education for work in terms of the acquisition of skills and knowledges occurs, and it is here that the real test of the effectiveness of the program is most clearly evident. For the primary criterion on which vocational education must be judged is the simple but inevitable question: Is the individual taught in a vocational school or class qualified to discharge the duties and responsibilities of the occupation for which he has been educated, and is there a reasonable chance of employment in that occupation?

4. Placement

The next assumption has to do with placement. Education for work includes not only orientation and training but induction into jobs. This naturally follows from the criterion which has just been stated in the preceding paragraph. Getting a job, getting started in that job, growing and progressing in it are all a part of the process of induction. Just as there are problems of guidance so there are problems of induction. Any program of education for work which pays scant or no attention to induction into jobs is comparable to a manufacturing organization which spends time, money, and brains on producing a splendid article of merchandise and then pays no attention to its sale or distribution. Such a procedure would be unthinkable in business.

In education for work, however, where the product is a skilled, intelligent worker, it not infrequently happens that there is no program for marketing the product—indeed, sometimes no knowledge as to whether or not there is a market. Any program of education for work which under-emphasizes the induction phase is inadequate at a vulnerable point.

5. Community Co-operation

All that has thus far been said gives strength to the next assumption. An adequate program of education for work requires co-operation with a wide variety of nonschool agencies and groups. Some of these are in the community immediately served by the schools. They include employers and employees both singly and in groups; they include parents and youth itself; and they include such organizations as public and private employment agencies, chambers of commerce, service clubs, and religious and charitable organizations. The list is almost as comprehensive as the gamut of such organizations represented in the community. It is clear that such co-operation requires some measure of organization.

Co-operation is not limited to the community. There exist opportunities, and in some cases requirements, for working together with such agencies as the state board of education, the state department of labor, and the United States Employment Service. Both in state and in national terms there is possibility and generally great need for co-operating with the departments of agriculture, labor, and commerce and, of course, the Division of Vocational Education of the United States Office of Education, and the other quasi-educational agencies which are in the Federal Security Agency.

6. Research

One final assumption has been implied in all that has been written here. Any realistic program of education for work must be based on a continuing analysis of the social and economic needs and trends of the total area served by the schools. The geographical limits of the area to be served, the scope of the program of vocational education in terms of numbers involved, buildings to be constructed, possibilities of placement, as well as the determination of budget, personnel, public relations, and numerous other aspects of a total attack upon the problem must rest on the solid, unassailable foundations of research.

7. The War

The above assumptions have been written in terms of the long-range program of vocational education. Nothing has been said that needs to be modified by the war-time conditions which obtain at the time of writing except that each assumption is even more valid in times of emergency. The occupational trends may be different but there is even more necessity for trying to discover whither they lead. The flower of male youth may be diverted into occupations of war, but the work they would have done must in large measure be carried on by others, women or older men, and the training and induction of these must be provided for. There will be the hideous problems of physical and vocational rehabilitation of maimed soldiers and sailors, and the baffling problems of vocational readjustment of men discharged from the army, navy, and air forces when the war ends, but the methods of solution rest upon the same basic assumptions. The problems are not essentially different, they are simply more poignant and inescapable in times of great national crisis.

III. Administration and Supervision of Vocational Education

The preceding section of this chapter has dealt with the basic philosophy which should underlie any superintendent's thinking and planning for vocational education. This section will aim to present the principles of administration and supervision which should operate in order that this philosophy may eventuate in action.

It must be recognized that vocational education is but one of many large and complicated problems with which the superintendent is faced as he essays to administer his school system in its entirety. It is likely to be, too, the aspect upon which his knowledge and experience are more limited than in any other major phase of his total responsibility. If perchance, he is one of the rare administrators who has reached the superintendency through outstanding performance along the vocational route, and there are a few leading superintendents who have done so, what follows is equally, if not more pertinent for him than for the superintendent whose understanding is largely built on hearsay.

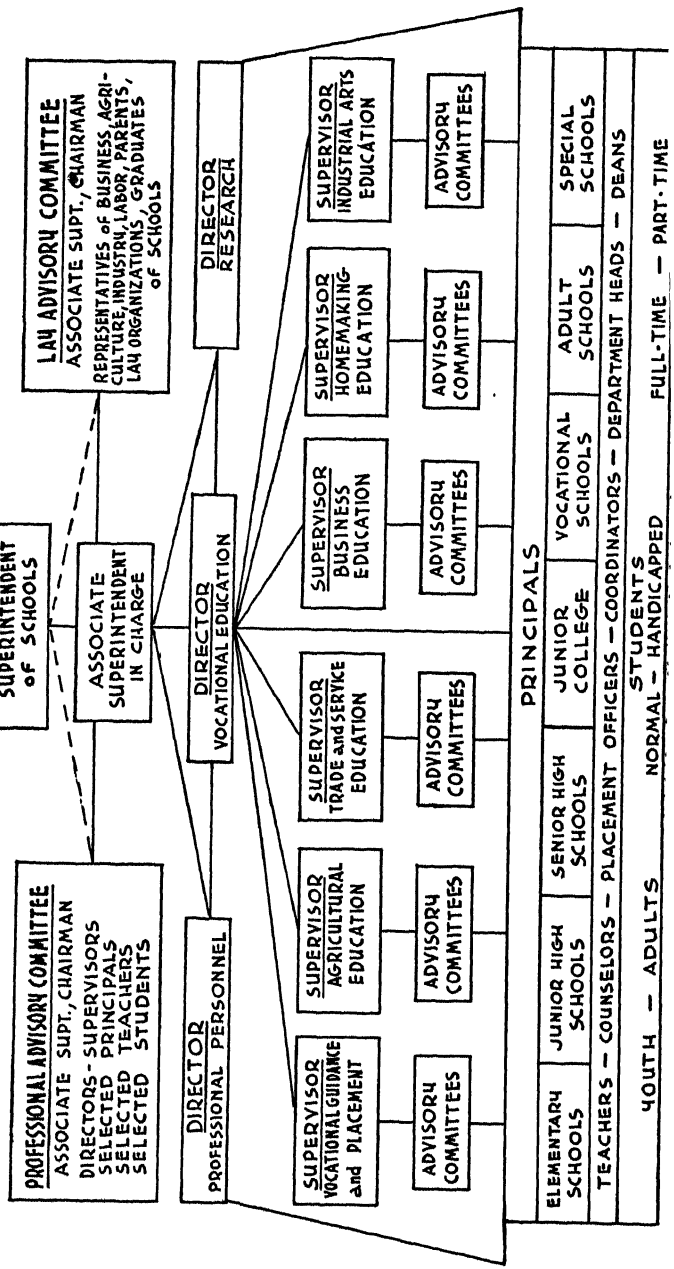
The most difficult problem faced by all administrators is that of delegating responsibility to qualified persons and holding those persons responsible for results. Poor administration almost always stems from the inability of a man to loosen his hold on all the reins. A school

system is a complicated organization ramifying through principals, teachers, and children ultimately to the community itself. A superintendent who fails to take this fact into account, who tries to make decisions on the thousand and one matters about which subordinates should and do know, is bound to have a less efficient school system than otherwise might be the case.

Another consideration involved in good administration concerns what is loosely called "democracy in administration." A good many crimes have been committed in the name of democratic administration and some programs have lagged miserably or failed because the chief executive has not recognized that there are decisions which only he can or should make. Nevertheless it is indisputably true that those systems generally are best in which every member of the staff from teacher to chief-deputy superintendent feels and knows that he has a part to play in the total administration of the school system and that that part, if well played, will be given suitable recognition.

A third factor, which is particularly important in vocational education, concerns public relations. No vocational school can afford to disregard the public which it serves—the firms which employ its graduates, the labor organizations which its boys and girls must join, the parents whose great desire it is that the son or daughter may safely embark on the voyage which leads to maturity, security, home, family, and that self-respect which comes with the knowledge that one can carry his own economic weight. All these, besides the critical taxpayer, scrutinize with more than ordinary care the program of vocational education.

Such considerations and others have been kept in mind in framing the accompanying chart, which attempts to depict a typical organization for a fairly large community. The reader should bear in mind that no organizational scheme can be equally applicable under all conditions and that the one presented may seem complicated for a community of average size. What should be recognized, therefore, is that the titles of officers given are unimportant but that the functions indicated by those titles are all necessary to the effective administration of a vocational program, whether the community be large or small, rural or urban, wealthy or poor. The smaller the staff the more the duties delineated in the chart for subordinates become the responsibility of the superior officer. The discussion which follows should clarify these general statements.


ORGANIZATION CHART
ADMINISTRATION and SUPERVISION of VOCATIONAL EDUCATION
PROFESSIONAL ADVISORY COMMITTEE
ASSOCIATE SUPT., CHAIRMAN
DIRECTORS - SUPERVISORS
SELECTED PRINCIPALS
SELECTED TEACHERS
SELECTED STUDENTS
SUPERINTENDENT of SCHOOLS
ASSOCIATE SUPERINTENDENT IN CHARGE
LAY ADVISORY COMMITTEE
ASSOCIATE SUPT., CHAIRMAN
REPRESENTATIVES of BUSINESS, AGRICULTURE, INDUSTRY, LABOR, PARENTS, LAY ORGANIZATIONS, GRADUATES of SCHOOLS
DIRECTOR PROFESSIONAL PERSONNEL
DIRECTOR VOCATIONAL EDUCATION
DIRECTOR RESEARCH
SUPERVISOR VOCATIONAL GUIDANCE and PLACEMENT
SUPERVISOR AGRICULTURAL EDUCATION
SUPERVISOR TRADE and SERVICE EDUCATION
SUPERVISOR BUSINESS EDUCATION
SUPERVISOR HOMEMAKING EDUCATION
SUPERVISOR INDUSTRIAL ARTS EDUCATION
ADVISORY COMMITTEES
PRINCIPALS
ELEMENTARY SCHOOLS
JUNIOR HIGH SCHOOLS
SENIOR HIGH SCHOOLS
JUNIOR COLLEGE
VOCATIONAL SCHOOLS
ADULT SCHOOLS
SPECIAL SCHOOLS
TEACHERS — COUNSELORS — PLACEMENT OFFICERS — COORDINATORS — DEPARTMENT HEADS — DEANS
STUDENTS
YOUTH — ADULTS
NORMAL - HANDICAPPED
FULL-TIME — PART-TIME

1. A Suggested Scheme of Organization

The program of vocational education in any community will be best administered and supervised if the total responsibility for it is lodged in one officer of major rank. If the city be large enough, the tasks and duties involved in administering effectively a program of such complexity and scope will demand the entire time and energy of an associate superintendent, who should be responsible only to the superintendent.

Such an arrangement, however, will not be possible in any but the largest communities and it therefore will prove more feasible to center the responsibility in the associate superintendent, under whom secondary and adult education fall, or in an officer whose purview is the entire system, as would be true of an associate superintendent in charge of curriculum, for example. For the smaller school systems the officer named as director on the chart will assume the duties implied for the associate superintendent, the number of supervisors will be reduced by combinations of responsibilities, but the duties involved will be decreased only in terms of numbers served, not of tasks to be faced and discharged.

Let us now examine the organization chart in detail. It is clear that the superintendent and, to a large degree, the associate superintendent are in the main determiners of policy, subject always to the approval and support of the board of education. Such matters as number and type of vocational schools, salary scale for vocational teachers, relations with industry and business and government, are the matters concerning which their decisions must be made. The more comprehensive their knowledge and understanding of the place of vocational education in a total program of education the wiser will be their decisions and consequent recommendations to the governing board.

It is in the director of vocational education, however, that the real problems of administration and supervision center. These can best be visualized by noting the supervisors provided in the organization chart, all of whom are responsible to the director. There is first the supervisor charged with vocational guidance and placement. This responsibility is no less than the organization and supervision of the total program of vocational guidance and placement at every level and for every individual in the school system. Whatever is set forth in other chapters of this volume as functions of vocational guidance and placement centers in and flows through this supervisor. If the situ-

ation permits, there should be assistant supervisors, one for vocational guidance and one for placement, but always responsible to the supervisor, who is in turn responsible to the director. Some may question the combination of these two tasks. The experience of many communities indicates that separation results in vocational guidance becoming unrealistic and in placement deteriorating into simple job-finding. There is so much vitality and power to be gained by keeping the two functions closely co-ordinated that any other arrangement will almost certainly be less efficient. Some may question, too, the placing of the supervision of vocational guidance and placement under the director of vocational education instead of under a director of "guidance." The writer is one who believes that vocational guidance workers need the constant elbow-rubbing with reality which residence in the vocational staff guarantees and that there is less danger of their chasing false gods who sometimes ride in the "guidance" procession if they are administratively responsible to the director of vocational education.

Note that there is provided an advisory committee tied to the supervisor and to the schools the supervisor serves. This committee—or more properly committees, for there should be many—makes possible the democratic development of curriculums, testing programs, publication of occupational material, tryout-experiences, and all the other ways and means of carrying out a good program of vocational guidance and placement. Such committees are made up of teachers, vice-principals, counselors, placement officers for all levels in which the vocational-guidance program operates. In the personnel of such advisory committees the wise administrator will include representatives of the employers of graduates, business and industrial leaders, public-spirited men and women, to the end that understanding and support from agencies outside the school may contribute to the program's effectiveness. Note also that this chart includes elementary schools as one of the levels to be considered in a vocational-guidance program.

The second supervisor is concerned with agricultural education. The reader may think of this as a problem of the rural school or the small community. And so it is, primarily. But the city in which the writer resides maintains nine high schools in which federally-aided agriculture is carried on, has an extensive gardening program for elementary and secondary schools, and in general uses almost as many teachers of agriculture as all the rest of the state. Whether or not the

problem warrants a separate supervisor, only size and local conditions can determine, but an attack upon the problem of agriculture in simple or comprehensive terms is possible in any community and should be provided for. Here, too, provision is made for advisory committees for each of the agricultural areas in which a vocational program is projected.

The three supervisors for trade and service occupations, business education, and homemaking education perform the same functions for their respective fields as the agriculture supervisor does for his and are likewise responsible to the director of vocational education. In each case advisory committees are provided, it being implied that there are at least as many such committees as there are subfields taught. Thus, for the program of trade and service education, there would be committees for such occupational fields as printing, aviation-mechanics, power-machine operating, cosmetology, restaurant cookery, and the like, with representatives from employers, employees, and teachers working together on the many problems involved in meeting the needs of trades and tradesmen concerned. Business education would be served by advisory committees representing such fields as secretarial work, bookkeeping, salesmanship, and office management. Homemaking education would certainly include committees of mothers, employers of maids, and employed houseworkers.

Some industrial-arts leaders would not approve the inclusion of the supervisor of industrial-arts education in the cabinet of the director of vocational education. The writer believes that the industrial-arts program, particularly in its exploratory aspects, is so closely related to the whole field of vocational education that its most certain promise of significant contribution to education lies in a close and vital relationship to vocational education. Therefore it is included in the organization chart, co-ordinate in place and function with the other divisions of a complete vocational program.

It should be noted that the supervisors serve the various levels of schools from the elementary school through the junior college—including in addition such separate vocational schools, of whatever nature, as may be set up; the adult schools, in so far as they contribute to vocational ends; and the special schools devised to meet the needs of such groups as the hard-of-hearing, the crippled, and the malnourished. It cannot be too often emphasized that the program of vocational education must be planned for all—youth and adults, men and women,

normal and handicapped, full-time or part-time pupils—in long or short courses, offered during the day or night, when and where there are individuals to be taught.

The organizational chart includes two directors besides the one responsible for vocational education. Both serve the entire school system as well as the vocational-education program. The first one is named the director of personnel. He is included because the problems of selection, induction, upgrading, and promotion of the vocational staff require close co-operation on the part of all concerned. Thus the chart shows the relationship of the director of personnel with the director of vocational education, with the associate superintendent-in-charge, and with the schools.

The other director is responsible for research and likewise has a threefold relationship. It might be argued that the research which should underlie any program of vocational education is so specialized in nature as to require a director of occupational research. This may be doubted, for the information necessary for adequate understanding of the socio-economic milieu in which vocational education must be planned is essential to wise administration of all education. There is, too, a guarantee that the director of research will tend to keep his feet on solid ground if, along with problems having to do with attendance, school marks, and per-pupil-costs, he has constantly before him other problems concerning such matters as occupational distributions and trends, job analyses, supply and demand, employment and unemployment, follow-up studies of graduates and nongraduates, and technological trends.

Two blocks in the chart are reserved for final brief consideration. The first is titled *"professional advisory committee"* and includes the associate superintendent, the directors, supervisors, selected principals, selected teachers and counselors, and selected mature students. Such a committee brings together in one flexible organization a group having to do explicitly with the total program of vocational education. The *"lay advisory committee,"* made up of the associate superintendent and representatives from as wide a variety of community agencies and organizations as feasible, permits a liaison with the public which is of inestimable value. The chart indicates that the superintendent may, whenever he desires, call together the professional and lay committees as one group advisory to him or to the board of education.

2. Distinction between Administration and Supervision

The reader will have discerned that in this chapter very little distinction is drawn between administrative and supervisory functions. The writer believes that time and effective education are frequently sacrificed in the effort to hew to a distinguishing line between two types of functions that frequently overlap and are often the responsibility of one individual; the latter condition is particularly true in the field of vocational education.

In the organization suggested above it is perfectly clear that the superintendent, the associate superintendent, and, in most cases, the officer called a director are administrative officers. Their duties and responsibilities are in terms of broad general policies, finance, selection of personnel, determination of building program, and a score or more of similar tasks.

The supervisors are in the main teacher-trainers and curriculum specialists, whose chief function is the improvement of instruction—a simple phrase for a profoundly important educational activity. In truth the supervisors are the spark plugs in any program of vocational education. Without them an administrative dynamo may revolve, but the power be largely dissipated. Without them the teaching pistons may go through the motions and the program coast along without significant results. But with champion spark plugs the power generated by administrative leadership gives an impulse to every teacher, and significant achievement is the result. When the administrative staff synchronizes all aspects of the program into a co-ordinated whole, then indeed does it have an educational motor which hits on all cylinders with surprisingly satisfying results to all concerned.

Let it be reiterated, however, that the smaller the community the more duties, which in a textbook can be separately catalogued as administrative and supervisory, tend to become centered in one individual, with resulting confusion of their distinctiveness. In the long run it doesn't much matter so long as a good teacher is impelled by wise supervision to keep on growing and improving, is furnished with sufficient facilities and equipment to permit a workmanlike job of teaching, and has the certain knowledge that his good workmanship will be recognized by suitable personal and financial rewards which give him security and professional morale. Administrators and supervisors are means to but one supreme end—the best possible instruction of all who attend the public schools.

Thus far there has been no discussion in this chapter concerning administrative and supervisory relationships with state and federal officers. This is a conscious omission. In all cases the basic principle underlying such relationships is mutual co-operation. There are certain state and federal laws and regulations under which the Smith-Hughes and George-Deen programs are carried out. It is the administrator's responsibility to know the conditions which control the initiation, the continuance, and the financial support of the various types of vocational education which the legislation was designed to promote. In so far as the matter of state and federal aid is a factor in his program, the superintendent should recognize the need for adhering to the procedures set forth in the printed documents of the Division of Vocational Education of the United States Office of Education and the bulletins distributed by the department of education of the state in which his community is located.

Administrators should always be on guard against the tendency to limit the program of vocational education to that which is reimbursable from federal funds. Careful perusal of the earlier sections of this chapter will have made it clear that at best only a part of the program properly falls under the purview of the Smith-Hughes and George-Deen Acts. The wise and farseeing superintendent will set up his total program in terms of the total occupational needs of his community, taking full advantage of the fact that certain phases of his program may be partially supported from state and federal funds, but fully aware that large areas will have to be paid for from other resources. He will accept every help and advice from state and federal officers which may be offered but he will recognize that final success and effectiveness will come only from the work which he and his associates do on the home grounds.

Here and there the administrator may discern evidence of an encroaching bureaucracy, sometimes from state, sometimes from federal sources. Where monies are earmarked for a special function or service there is always a tendency or desire on the part of the disbursing agency to exceed the authority given in the legislation setting up the agency. It is the administrator's duty to resist such encroachments, even if resistance means loss of state and federal funds, always assuming that the difference between a bureaucrat and an administrator is known and recognized. Nor should an administrator be carrying on a program of vocational education concerning which he or his com-

munity is lukewarm or unsympathetic simply because by so doing he is securing state and federal monies for his system. The result, at best, will be a program halfheartedly supported and maintained; at worst an indefensible waste of public funds. Mutual co-operation and respect, let it be reiterated, is the cardinal principle which should control all relationships between state and federal officials and local administrators, as indeed it should control all administrative and supervisory relationships, whether concerned with vocational or nonvocational education.

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1925. Pp. 62; in 1930, Pp. 63. (Federal Board for Vocational Education, Bulletin No. 13. Agricultural Series No. 1).

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UNITED STATES OFFICE OF EDUCATION. *Trade and Industrial Education: Organization and Administration.* By Lewis H. Carris, 1918. Pp. 125; Revised by Frank Cushman, 1924. Pp. 112; in 1929. Pp. 152. (Federal Board for Vocational Education, Bulletin No. 17, Trade and Industrial Education Series No. 1).

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Publications of state departments of education frequently include plans for vocational, agricultural, home economics, trade and industrial, and commercial and distributive education (usually in bulletin form, mimeographed or printed); contracts drawn up between the state board for vocational education and the United States Office of Education, as required at periodic intervals; and credential requirements for teachers of vocational and industrial arts education.

CHAPTER IV

COMMUNITY RELATIONSHIPS IN VOCATIONAL EDUCATION

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I. WORK AND THE COMMUNITY

The great weakness of academic education has been its detachment from life. The growing strength of general education is its search for life. The soundness of vocational education is its foundation upon life. Everybody must work, so everybody must learn to work. "Everybody," young in school but old on the job, becomes the parent, the employer, the farmer, the mechanic, the mayor, the Rotary Club member, all pursuing their vocations. They have had experience, they know what life is, they know what it takes to become a productive member of the community. If the schools are to teach their children to become the next generation of productive members, they must keep a sharp eye and a receptive ear for this community of work. Vocational education has a good record for close contact with reality.

Good will and keen desire are not enough. Educators, community-minded citizens, and legislators must provide the social machinery to translate the collective wisdom of the community into the school organization. The purpose of this chapter is to recite some fruitful experiences in the organization of community programs for vocational education and to draw from these instances some sound generalizations. In doing this it is important to recall that the members of a community group themselves in many different ways, according to their interests. Even the same person finds himself in a number of groups corresponding to a number of interests. A man may be the father of a boy in a vocational school, member of the Rotary Club, an employer, and a member of the Chamber of Commerce. In all these capacities he will be interested in what the vocational school is doing for his child and

other men's children and in how the community at large will be benefited by that education.

II. Advisory Boards

Obviously, the most vital and direct relationship of the vocational school to the community is through community members as workers, both employers and employees. So there has arisen the common practice of organizing employers and employees in the community into an advisory board. The United States Office of Education and state departments of education emphasize the fact that advisory boards are *advisory,* are in no sense administrators, and at no time possess the veto power. Wise administrators will accept and implement the recommendations of a good advisory board. Well-informed and responsible employers and employees will be glad to give their services if the school administration makes appropriate use of them. Nevertheless, the constituted board of education must be the final authority as to the types of education organized and the manner in which they shall be administered.

Within these limitations, the advisory board has even larger scope than can be encompassed within the time and energy of the most faithful board members. A recital of these services tells the story.

1. Selection of Trades To Be Taught

Training workers for nonexistent jobs is obviously just as futile as the training in literary and artistic graces for which there is neither competence nor outlet. This is not to say that the job must always exist in the same community, but it must certainly exist somewhere within reach of the boy or girl who is being trained for it. In a very small community the availability and scope of local industry, business, or agriculture, is common knowledge, but as the community grows larger and larger the details become obscured. Whether small or large, an advisory board is charged with the duty of bringing to the school official a clear picture of the community occupational life, out of which a curriculum of the vocational school and, in part, of the general school (often combined in one) must be based. In the smaller community these facts may be organized into a plan through infrequent, informal conferences. In the larger communities they may require frequent, extensive and expensive surveys. Large or small, such surveys are the responsibility of an advisory board on vocational education.

2. Courses of Study

Once an occupation is chosen for instruction in a school (and it should be noted here that "school" means any place where that occupation can be effectively taught, whether in a school building, factory, store, farm, or elsewhere), the details of such instruction must be worked out in terms of the best trade, business, or agricultural practice. Again, the persons who know these details are those who are engaged in the occupation. So the advisory board is charged with the duty of assisting the administration in determining the content of the curriculum.

3. Teacher Selection and Training

Teachers of vocations must know their vocations and must have had extensive and varied experience in them. They will come out of the trades, businesses, and farms where those vocations are practiced. An advisory board of employers and employees should select out of their own group the various best men and women in their vocations. The judgment of these members must be accepted by the school administration. The board members may even be able to choose workers who have shown an aptitude for teaching other workers. They may even have sound advice to offer for the training of tradesmen and tradeswomen for the profession of teaching. However, the administrators and supervisors of the school system should, at this point, bring to bear upon these new teachers the best techniques of their own occupation, that of teaching.

4. Equipment and Supplies

Just as the course of study and the teacher must conform to trade standards, so must the equipment and supplies used to teach the trade. Those who are engaged in the trade presumably use machinery and materials needed for most effective production, and they would know that adequate training can be given only on such machines and with such materials. However, it should be clearly noted that such a statement must not be taken literally. Many large machines, used in mass production, can be tended successfully after a few hours' training on the job. Such machines, expensive as they are, have no place in a school. Again, other machines may require long periods of training for their successful operation, but may exist in such small number as to make it unprofitable for a school to install them. But the general principle

holds, that, in one way or another, prospective workers should become familiar with the machines and the media with which they are to work. The advisory board members know what these are and should inform the board of education.

5. Pupil Personnel

Even if the advisory board has performed all of the four foregoing functions with rare skill and discretion, the future workers trained under the program will still be no better than their own potentialities. The advisory board should indicate what these potentialities should be, mental, physical, social. In setting these standards it may well assist the board of education in selecting for vocational education those boys and girls who are likely to succeed.

6. Placement

Placement grows naturally out of all the foregoing. If, in the opinion of the advisory board, the vocational training has been sound, the employer members of this board should be willing and eager to take the young people into their own establishments where both the employers and employees, including the new individual employee, may benefit.

7. Day-to-Day Counsel

In the earlier days of advisory boards there sometimes existed the idea that the principal function of the board was to hold regular meetings at which the welfare of the schools would be discussed. In actuality, the best functioning boards meet seldom for formal action. What does happen is the frequent, informal, individual conference—in person or by telephone—between teacher, principal, or superintendent and a board member. Or the board member visits the school. The day-to-day help and encouragement of advisory-board members is invaluable, even indispensable in the conduct of a live vocational-education program.

8. Publicity

The failure of the community to understand and appreciate its schools has been frequently deplored. In the general schools the parent-teacher association has been an important factor in remedying this situation and, as will be pointed out below, it is important in the vocational schools. However, the advisory board goes a long way in estab-

lishing this liaison. As has already been indicated, employers and employees are also parents, club members, and citizens, and therefore carry their knowledge of the vocational school back to all the other members of the community. This is publicity, good public relations, of the best kind.

9. Organization

The selection of advisory-board members requires just as much good judgment and fine discrimination as does that of board of education members. Where the community is large it may be necessary to organize a subcommittee for each of the principal trades in the community. For instance, in New York City, under the auspices of the Advisory Board on Industrial Education, thirty-nine commissions have been organized, each concerned with a particular trade. They cover such widely diverse fields as the maritime occupations, vocational music, commercial photography, cosmetology and hair dressing, dental service, aeronautics, air conditioning, heating and ventilating, auto mechanics, barbering, building trades, building maintenance, business, distributive trades, food trades, glove making, metal trades, machine manufacturing, pattern making, needlecraft, ophthalmology, optical mechanics, graphic arts, radio, textile weaving, boots and shoes, horology, jewelry crafts, welding, forestry, boatbuilding, diamond cutting, and plastics. Each commission, in its own field, is responsible for all the functions cited in the foregoing paragraphs. Individually and collectively, they have been a most important factor in keeping the vocational schools close to the needs of the community and to the occupations carried on in it.

10. Labor

The average schoolman, only superficially acquainted with occupational problems, is always skeptical, even cynical, about the possibilities of co-operating with organized labor. Too often, to him, "unions" are synonymous with "strikes" and other "labor troubles." The fact is that, throughout the United States, the co-operation of organized labor in promoting vocational education has provided notable evidence of the possibility of establishing live curriculums in live schools; in other words, this co-operation is making the schools prepare for life, as they have always been supposed to do. True, unions are not uniformly understanding and co-operative, but neither are employers' associations. Nevertheless, the average is high. It is a matter of common experience

that, when organized employers' and employees' groups are brought together in conference, they frequently indulge in sharp discussions regarding wage-and-hour conditions, but when they focus upon problems of their children, the children of the community, and attempt to formulate educational plans, the interests of both groups begin to merge to the end that they combine their forces and give support to sound vocational education.

The official attitude of the American Federation of Labor is reflected in a resolution passed at its 1937 Convention calling for the more active interest of affiliates in vocational education and insisting upon high standards of performance. While no such similar declaration of policy is available from the Congress of Industrial Organizations, the practical co-operation of the C.I.O. unions in New York City is evidence of understanding and appreciation similar to that of the A. F. of L. For instance, the National Maritime Union, a C.I.O. affiliate, is not only represented on the Maritime Educational Commission (a subcommittee of the Advisory Board on Industrial Education), but all graduates of the maritime course in the Metropolitan Vocational High School are automatically accepted as members by the Union and are placed aboard ships.

It may be stated unqualifiedly that those unions with intelligent leadership can and will co-operate with those school systems having intelligent leadership. The outstanding success of such co-operation in such cities as Pittsburgh, Milwaukee, New York, and Los Angeles, to mention only four, is ample evidence of the validity of this statement.

III. The Occupational Survey

1. General Principles

For a long time the terms "curriculum construction" and "curriculum revision" have been current in the field of general education. "Occupational survey" and "job analysis" are, roughly, comparable terms in the field of vocational education. Careful consideration of the functions of an advisory board, as recited in the foregoing sections, would indicate that, if these functions are exercised on a high plane of efficiency and in close co-operation with the board of education, they constitute a kind of continuous occupational survey and repeated revision of job analyses. They will keep education close to life and make it a specific preparation for life.

The experience with vocational surveys has been varied. Sometimes they have produced good results, at other times negative results. In one sense it may be fair to say that no one can predict the reaction of the school system and the public. In another sense it may be said that the reaction can always be predicted if one general principle is kept in mind: the purposes, methods, and personnel of the survey must, at every stage, be freely and frankly discussed with the administrators and teachers who will be expected to carry out the recommendations of the survey—indeed, these administrators should be put to work on the survey itself. Needless to say, comparable discussion must take place with the public, as represented by the board of education and other civic bodies.

2. Types of Surveys

In the early days of the first World War, when the general public had not yet become aware of the need for vocational education, the National Society for the Promotion of Industrial Education, the first name of the present American Vocational Association, took it upon itself to bring about such public recognition by means of vocational-education surveys of several cities in which the Society planned to hold conventions. Typical of these are the vocational education surveys of Richmond, Virginia,[1] and of Minneapolis, Minnesota.[2]

Shortly after those surveys were made, the Federal Board for Vocational Education was established. Somewhat later the Board issued a bulletin on the *Vocational Education Survey: A Discussion of Methods, Procedures, Forms, and the Organization of Survey Committees,* as Miscellaneous No. 168.[3] The Vocational Education Division (formerly the Federal Board for Vocational Education) of the United States Office of Education has recently issued another bulletin (Miscellaneous No. 2914), a brief outline of a more comprehensive bulletin to be issued later. Since those early days many

[1] Bureau of Labor Statistics, United States Department of Labor. *Vocational Education Survey of Richmond, Virginia.* Bulletin, Whole Number 162. Washington: Government Printing Office, 1916.

[2] Bureau of Labor Statistics, United States Department of Labor. *Vocational Education Survey of Minneapolis, Minnesota.* Bulletin, Whole Number 199. Vocational Education Series No. 1. Washington: Government Printing Office, 1917.

[3] This is printed in full in Wright and Allen, *Supervision of Vocational Education,* p. 351 ff. New York: John Wiley & Son, 1926.

occupational or vocational surveys have been made, with varied and varying results. These are reported in numerous publications:[4]

In all these surveys there is one dominant note. Vocational education must establish and retain the closest relationship with the community. Surveys have value only in so far as they extract from the community facts, figures, opinions, and sentiments, and translate them into a curriculum that will prepare boys and girls to face these facts, figures, opinions, and sentiments when they become full-fledged workers and citizens.

IV. Co-operation With Other Governmental Agencies

The discussions in this Yearbook repeatedly emphasize the varied and numerous opportunities for and situations in which boys, girls, men, and women may learn how to work, or to work more efficiently. Not only is much vocational education carried on in places other than those ordinarily called "schools," but it is carried on by agencies that are not usually associated with public schools. These public agencies

[4] Howard M. Bell, *Matching Youth and Jobs*. American Council on Education. (Prepared for the American Youth Commission.) Washington: Government Printing Office, 1940.

Ellsworth W. Brooks, "A Standard Procedure for Administering Commercial Occupational Surveys." Master's thesis. Iowa City, Iowa: State University of Iowa, 1933.

Emily G. Palmer, *Handbook for the Vocational Education Survey*. Berkeley, California: California State Department of Education, Division of Vocational Education, 1941.

Grayson N. Kefauver (director), *A Study of Vocational Conditions in the City of Fresno*. General Education Series No. 2, Division Bulletin No. 20. Berkeley, California: Division of Vocational Education of the University of California and of the State Board of Education, 1926.

P. G. Frasier, *A Technique for a Vocational Education Survey of a Local Community*. Des Moines, Iowa: Iowa Board for Vocational Education, 1939.

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Frederick G. Nichols, "What Are the Steps in the Process of Determining the Occupational Opportunities in a Given City," First Yearbook, Foundation of Commercial Education, New York, New York, pp. 361-70. New York: Eastern Commercial Teachers' Association, 1928.

John J. Seidel, "Report of Study of Occupational Surveys." Baltimore, Maryland: State Department of Education, 1938 (Mimeographed). (Report presented at the Annual Regional Conference of Industrial Education, Hotel Webster Hall, Pittsburgh, Pennsylvania, May 18, 19, 20, 1938).

are described in chapter xvii. They must be considered as vital elements in the total educational program, and therefore close co-operation must be maintained among all of them. Whether it be W.P.A., N.Y.A., C.A.A., C.C.C., U.S.A., U.S.N., a state board of education, or the United States Office of Education, relationships must be cordial, positive, all calculated to produce effective men and women.

V. Co-operation With Nongovernmental Bodies

The growing realization of the importance of vocational education has enlisted the interest of many groups organized for other purposes. Service clubs, such as Rotary and Kiwanis, have devoted much time and energy to the study and promotion of vocational education and vocational guidance. The Y.M.C.A., Y.W.C.A., Y.M.H.A., Y.W.H.A., and other social welfare groups have noted the dependence of sound welfare procedure upon effective occupational adjustment. They have helped the schools and been helped by them. All the social contact machinery of the general schools, especially the parent-teacher associations, can and should be used in the interests of vocational education.

VI. Other Relationships

Certain types of vocational education, some of them of long standing, have always employed close community ties. When farm boys learn to farm by imitating their fathers, and when farm girls learn to be housewives by imitating their mothers, their vocational education is closely tied up with the community of fathers and mothers. When the apprentice worked and lived in the master's home and received his moral as well as his vocational education from the same person, and the master was a member of a guild, and the association of guilds pretty much controlled the community, vocational education was certainly tied up closely with the community. In other words, vocational education in a simple economy did not have to worry about maintaining its community contacts. Vocational education was inherent in the community itself. However, with specialization, rationalization, and organization, both in the occupations and in the schools, these ties were loosened. The organization of advisory boards, parent-teacher associations, and the like, are attempts to re-establish a fundamental relationship that can never be broken without serious consequences to both young learners and old workers.

1. Agriculture

All this is strikingly illustrated by the activities of teachers of agriculture in high schools and colleges and of agents of the United States Department of Agriculture in their attempts to promote better farming practices. In order to make crops grow where no crops have grown before or to make better crops grow where poor ones have grown before, thousands and thousands of farmers must be taught sounder practices and related technical knowledge. These men knew that their task was one of education, therefore they have worked with the men and women in the community, bringing them together for courses of instruction, going out to their farms to give individual instruction, getting them to see that the welfare of the entire community was dependent upon their education.

In Sac City, Iowa, the Farmers' Evening School is headed by a council of the leading farmers in the community. The purpose of the council is to aid the instructor in agriculture in studying the agricultural needs of the community and in planning a series of evening meetings. The instructor is also the director of the adult-education program. The farm men, farm women, town men, and town women each elect a council of ten members. The chairmen of each of these community-group councils, with the vocational-agriculture instructor, constitute the highest governing body in the adult school, known as the Adult Education Council. This council is a general advisory group and assists the director whenever occasion arises. The activities are not confined to current farm problems (although these are primary) but to such diverse courses and activities as elementary Spanish, international relations, current problems, law for laymen, health in the home and on the farm, men's recreation, handicraft, elementary photography, beginning typewriting, adult homemaking, swimming, industrial arts, and retail advertising.

In Manson, Iowa, and in Sanford, Florida, regular meetings are held for the discussion of farm problems and much stress is laid upon co-operative buying and upon the activities of the Future Farmers of America. In Farmville, Virginia, the Randolph Young Farmers' Co-operative, in addition to promoting co-operative buying, has been concerned with the introduction of electricity into the community, with provisions for recreational opportunities, and finally with national defense projects, including a class in metal working and another in

machinery repairing, and, at the request of the government, in the raising of soy beans and peanuts.

2. Homemaking, Rural and Urban

As has already become apparent, in rural communities it becomes very difficult to differentiate between strictly vocational activities and those concerned with home and general community life. As a matter of fact, the distinction easily becomes artificial and unnecessary. In 1938 the United States Office of Education announced the beginning of four experimental programs in family-life education, selecting four school systems on the basis of size, regional differences, and occupational specialization. The following statement characterizes these experimental programs.

Obion County, Tennessee, is a rural southern county and is chiefly agricultural in its interests. Box Elder County, Utah, is a large western county in which there is a strongly developed church interest in family life. Toledo, Ohio, is a big industrial eastern city with an heterogeneous population. Wichita, Kansas, is a representative Middle-Western community of medium size and homogeneous population, dependent on both agriculture and industry for its support.

The chief purpose of the experiment as a whole is to find ways of bringing about stronger, richer, more realistic programs of education for home and family living through concerted school and community effort. For a number of years, teachers have found the real "content" for their teaching in the home experiences of their students. Problems of nutrition, of clothing, of housing, of home management, of family relationships are concerns of life itself. To be completely "abstract" in the discussion of such matters as family use of money or co-operation in family living is ineffective from an educational standpoint, and impossible from a practical one.[5]

It would be possible to cite community after community engaged in sound educational programs. Through various publications the United States Office of Education has provided help in organizing such a program.[6]

[5] Edna P. Amidon, "Community Organization for Family Life," from *Four Communities Pioneer,* a reprint from *School Life,* published by the United States Office of Education, 1941.

[6] United States Office of Education, *Community Programs of Education in Family Living from the Viewpoint of Home Economics,* Miscellaneous Pamphlet No. 1983. Washington: United States Office of Education, 1937.

3. Part-time Education

Many of the activities described in the foregoing paragraphs may be properly designated as part-time education. However, as a final point in this exposition of relationships between vocational education and community, it seems important to recall certain traditional types of vocational education, sometimes highly organized and at other times quite unrecognized.

a. Apprenticeship. The boy working for his father on the farm is, in a sense, an apprentice. He learns his trade from his father. He learns his three "R's" from his school teacher. Then along come the handicrafts and town life. To learn to become a goldsmith, for instance, the boy is bound out to a master with whom he not only works but also lives. Then comes industry, specialization, factory, and the master-apprentice relationship is no longer possible. Boys can learn the manipulative phases of their jobs on the job, but the "master" is not there to tell the "why and wherefore," so the "new apprenticeship" arises. The boy goes to "school" for several hours a week to learn the drawing, the mathematics, the science related to his job in the factory. All this is part-time education and, to be successful, must be carried on with the closest possible co-operation between the "school" teacher and the "shop" teacher.

b. Continuation Schools. The continuation school is intended to provide for *all* boys and girls that related technical education provided by good apprenticeship systems. Compared with the total number of workers in industry, the number of apprentices has always been woefully small. Therefore, only a small number of boys (and usually no girls) have enjoyed this type of education. The continuation school spreads the benefits to the entire population. Theoretically, every boy and girl in these schools receives instruction supplementary to the job he is holding or is provided try-out experiences to enable him to select the kind of work he wishes to do. He assumes the highest type of community relationships because, when well conducted, co-ordinators not only visit the employer but visit the home and bring back to the school all the information pertinent to the job and to the pupil and, therefore, to sound education.

c. Co-operative Education. Co-operative education usually consumes half time on the job and half time in school, usually one or two weeks, in alternation, although in some cases, as in colleges, the periods may be one, two, or three months. Theoretically, co-operative

education is the soundest type of vocational education. Yet, it has frequently languished, almost disappeared; but again, during the stress of war, it is being talked about, even being put into practice. The practical weakness has seemed to lie in the difficulty of obtaining effective co-ordination between the school task and the job task. In rural areas where everyone knows everyone else anyway, no great difficulties have been encountered. Part-time agricultural education is well established. But in industry the story has been different. However, here again well-organized advisory boards have rendered excellent service and can do even more to promote effective co-operative education.

CHAPTER V

VOCATIONAL GUIDANCE

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I. WHAT VOCATIONAL GUIDANCE IS

The standard definition of vocational guidance, adopted after frequent revisions by the National Vocational Guidance Association, is stated in the following terms:

Vocational guidance is the process of assisting the individual to choose an occupation, prepare for it, enter upon it, and progress in it. It is concerned primarily with helping individuals make decisions and choices involved in planning a future and building a career—decisions and choices necessary in effecting satisfactory vocational adjustment.[1]

II. THE PLACE OF VOCATIONAL GUIDANCE IN THE VOCATIONAL-EDUCATION PROGRAM

1. The Need for Vocational Guidance in a Vocational School

The foregoing definition of vocational guidance directs attention to the continuity of human experience and emphasizes the importance of a corresponding continuity of guidance service. Child guidance is largely concerned with behavior problems. As the child progresses through the grades, he exercises more and more his ability in those subjects resulting in expression: music, art, woodworking, sewing, cooking. In "progressive" and "activity" schools generous and special opportunities are given for such expression. Somewhere about the

[1] "The Principles and Practices of Vocational Guidance," Report of the Committee of the National Vocational Guidance Association, *Occupations, the Vocational Guidance Magazine*, XV (May, 1937), 772-78.

period of the junior high school these courses come to be known as "exploratory" or "orientation" courses and they are then considered part of a vocational-guidance program.

All the interest in the development of the individual child, all the attention to an appropriate curriculum, all the devices to enable the child to get the most out of school and out of life, constitute good guidance and, in its occupational phases, good vocational guidance. This Yearbook cannot, and should not, devote space to an exposition of all its processes. These have been adequately described elsewhere.[2]

However, we are very definitely concerned with those special phases of vocational guidance that lead the pupil *to* the vocational school, that lead him *through* the vocational school, that lead him *out of* the vocational school, either to another type of school or to a job, and that lead him into better and better jobs.

If the admission of every pupil into a vocational school were predicated on *his* wise choice of a course; if, in turn, that pupil's wise choice had been determined by his knowledge of the selected trade, his physical fitness, his aptitudes, his chances of obtaining employment and making progress in that trade—even then a vocational-guidance program would be a most important service in a vocational school. The pupil is an individual. Individuals grow; their needs change, their true capacities do not appear at the first meeting with their teachers.

The importance of vocational guidance for vocational education has been recognized by Harry D. Kitson in the chapter on "Trends in Vocational Guidance," [3] by Prosser and Allen in their chapters on "The Discovery and Placing of Ability—by Testing" and the "Dis-

[2] Richard D. Allen, *Organization and Supervision of Guidance in Public Education.* New York: Inor Publishing Co., 1933.

John M. Brewer, *Education Is Guidance.* New York: Macmillan Co., 1932.

Arthur J. Jones, *Principles of Guidance.* New York: McGraw-Hill Book Co., 1934.

Franklin J. Keller and Morris S. Viteles, *Vocational Guidance throughout the World.* New York: W. W. Norton, 1937.

George E. Myers, *The Principles and Techniques of Vocational Guidance.* New York: McGraw-Hill Book Co., 1941.

National Society for the Study of Education, *Guidance in Educational Institutions,* Thirty-seventh Yearbook, Part I. Bloomington, Illinois: Public School Publishing Co., 1938.

[3] Edwin A. Lee, *Objectives and Problems of Vocational Education.* New York: McGraw-Hill Book Co., 1938.

covery and Placing of Ability through Training,"[4] and by Snedden in his chapter on "The Practical Arts in General Education."[5]

2. Industrial Arts

a. Industrial Arts Is Not Vocational Education but Is a Phase of General Education. The following is an excellent statement of its role in education:

> This is essentially an industrial age; modern civilization is dependent largely upon science, invention, and skill. The manufacturing industries are important among the activities which make for the material well-being of the people. They should be exemplified in the facilities provided by public education. The general education of every public school pupil—his cultural development—is incomplete without concepts, understandings, and appreciations regarding manufacturing and its hosts of workers. Industrial arts as an education field makes this desired contribution to the pupil's development. It concerns itself with the aesthetic and economic values of materials, with basic processes of manufacture, and with many problems of the workers.
>
> The public schools, through the grades, should be rich in provisions for pupil experiences (1) which teach the necessity and dignity of work; (2) which illustrate the diversification of industry; (3) which provide for testing personal interests and aptitudes in representative crafts; (4) which serve avocational interests in construction; (5) which develop consumer knowledges and appreciations; (6) which provide occupational training for those who plan to enter employment as industrial workers and for those now in manufacturing trades who desire to improve their proficiency. The first five of these points are served by industrial arts as a phase of the general education desirable for all, the sixth point is the function of industrial or trade education for those who need it as specific training. Industrial arts merges into trade preparation at the time when general-education objectives change to specific training objectives.[6]

b. Industrial Arts as Orientation. For vocational education the principal value of industrial arts lies in the opportunity for the pupil to learn something about the world of work, especially what it means to work with one's hands.

The idea of *exploration,* for example, means not only contacts with a wide variety of tools, materials, and techniques, but a study of occupational oppor-

[4] Charles A. Prosser and Charles R. Allen, *Vocational Education in a Democracy.* New York: D. Appleton–Century Co., 1925.

[5] David Snedden, *Vocational Education.* New York: Macmillan Co., 1920.

[6] *Industrial Arts, Its Interpretation in American Schools,* p. v. United States Office of Education Bulletin No. 34, 1937. Washington: Government Printing Office, 1938.

tunities and interests extended even to actual tryouts in industry on the part of advanced adolescents. This principle of orientation has been extended to apply on all maturity levels, from earliest childhood through adolescence to adulthood. It is based upon the ever-present need for finding out about things. The industrial arts teacher is impressed at once by the importance of this objective and should understand well the significance of its origins.[7]

The junior high school provides a period of exploration and guidance preliminary to choice of a career or vocational training. Industrial arts, as a part of general education, in these years (*a*) provides information regarding industry and workers; (*b*) reveals employment opportunities offered by industry; (*c*) satisfies the boy's and girl's desire to create useful things; (*d*) develops hobby and handyman interests and abilities; (*e*) contributes to the tastes and judgment of the prospective consumer; (*f*) develops interest and ability in home repairs and maintenance; (*g*) affords practice in safety related to the school, home, and industry; (*h*) gives opportunity for co-operative effort in groups; and (*i*) illustrates and vitalizes the academic subjects.[8]

3. The Guidance Program Preceding Admission to Vocational School

The effectiveness of the prevocational school guidance program is measured by the adaptability to vocational education of those who are sent by the lower schools. In the early days of vocational education, the students enrolled in vocational classes were largely those who could not succeed in the academic program. In many areas this situation has now been reversed; graduates of the vocational schools get jobs; students clamor at the gates for entrance; a few are chosen; and the many are left to the academic high school.

Farsighted leaders in vocational education already are insisting that vocational education must meet this challenge better than academic education met it, that vocational educators must do their share in helping the entire public school system to adapt its program to the needs and capacities of all the students who seek an education or who are having an education thrust upon them.

Specifically, they recommend the development of vocational courses upon as many levels of ability as may be necessary, and the selective admission of students to whatever program seems most appropriate to their abilities and interests. What can be, and has been, done along these lines in various communities in this country

[7] *Ibid.* p. 14.
[8] *Ibid.* p. 41.

is well described by Sylvester in chapter xviii. Appropriate instruction in occupations may be offered from the top to the bottom limits of normal intelligence without lowering the standards of training for the skilled trades.

III. Guidance Procedures

1. Admission

Selective admission is based primarily upon the best estimate which the school can make of the probable success of the student in the occupation for which he seeks training. The estimate takes into consideration all conditioning factors upon which information can be obtained. To illustrate:

Abstract intelligence sufficient to master related technical knowledge is obviously essential, but is by no means the only requirement. One school, which used intelligence quotients as the primary basis of selection, found after some months that it had a fine collection of scholars but very few mechanics. For this reason many schools use tests of vocational aptitude and interest.[9]

Personality likewise is important. Not only may it condition success but it exercises much more influence upon the actual choice of a vocation than is commonly supposed even by the one who does the choosing.[10]

Health is generally given less attention than it deserves. But one New York City school now gives allergy tests to all students because some have been found allergic to materials with which they work if they enter certain areas for which the school trains.

If employment in the occupation of the student's choice is restricted to union members and if admission to union membership is limited to relatives of present members, another obviously important consideration is family connections.

Cumulative records of work done in the lower grades may reveal information significant for admission, just as such records, if well kept during the period of vocational education, may aid materially in progressive adjustment and in the final choice of a job at the time of placement.

[9] Walter W. Bingham, *Aptitudes and Aptitude Testing*. New York: Harper & Bros., 1937.

[10] H. W. Hepner, *Finding Yourself in Your Work*. New York: D. Appleton-Century Co., 1937.

2. Testing

Vocational guidance is based in large part on the counselor's understanding of individual needs. He can gain such understanding only through the systematic study of individual differences. Testing is an economical way of determining some of the ways in which the pupil differs from his fellows. Many years before the beginning of organized guidance, Francis Galton said that one of the functions of tests "is to obtain a general knowledge of the capacities of a man by sinking shafts, as it were, at a few critical points."[11] Perhaps in an attempt to ascertain the best points for the purpose, psychologists have flooded the field with a great number of different tests. Among these are to be found tests of general intelligence, achievement, special aptitudes, personality traits, and interests. A comprehensive discussion of existing tests appears in the volumes of the Mental Measurements Yearbook.[12]

In selecting the tests which will prove most useful and economical of time and effort, the vocational-guidance counselor would do well to be guided by Bingham's pragmatic approach: that a test is good or poor in relation to the specific purpose to which it is put, regardless of other criticisms which may be made of it. In vocational guidance, tests may be used to estimate whether a pupil possesses the intelligence necessary to meet the educational requirements for entry into the occupation of his choice; to ascertain whether he has the specific aptitudes necessary for success (where these are known); to determine whether his interests are such that he will probably enjoy the work and be happy in the company of those with whom it will bring him into contact; and lastly, whether there exists any physical, mental or emotional handicap which will bar him from success in the contemplated occupation.

Vocational guidance is also concerned with the *progress* of the individual after he has entered the occupation. Bingham[13] and Myers[14] have summarized the data which have been accumulated

[11] Quoted by Clark L. Hull, *Aptitude Testing*, p. 8. New York: World Book Co., 1928.

[12] Oscar K. Buros (ed.), *The Mental Measurements Yearbook*. Highland Park, New Jersey: Mental Measurements Yearbook, 1941.

[13] Walter V. Bingham, *Aptitudes and Aptitude Testing*, pp. 35-59. New York: Harper & Bros.: 1937.

[14] George E. Myers, *Principles and Techniques of Vocational Guidance*, pp. 166-89. New York: McGraw-Hill Book Co., 1941.

proving that the various occupations differ widely in respect to the intelligence of the majority of the workers in the occupation who work efficiently and happily. Of course, our intelligence tests cannot determine the exact occupation for which an individual is best suited, but they are invaluable aids in estimating his probable occupational level. Personality tests can assist the counselor in judging whether a pupil has adequate feelings of security or is hampered by feelings of inferiority or other emotional handicaps. With such knowledge he may guide the pupil in his choice between a less desirable occupation where he will be brighter than most of his co-workers and a better position which will require competition with more capable people.

Thoughtful guidance workers realize that no test will ever be devised that will be an absolutely accurate method of determining an individual's aptitude for a given vocation. The ultimate test will always be life itself. There has been a tendency to label certain tests as accurate and worth while and other tests as inaccurate and worthless, but this clean-cut dichotomy does not exist in reality. All measuring instruments may be conceived of as occupying different points on a continuum of precision. With this conception, any test which possesses greater validity than unaided common sense is of some value, provided it does not cost too much in time or money.

3. Health

Industry and government are arbitrary concerning the health of a worker seeking a job. Long years of vocational preparation are so many wasted years if the pupil is physically unfit to enter the occupation for which he has received the training. An adequate health program is a prime essential in the conservation of human resources. Vocational education aims for such conservation.

The continuation schools in New York City were provided with medical staffs not only to examine pupils applying for employment certificates, but also to aid these applicants in their health problems. In addition to the doctors and nurses, a health counselor was assigned to the medical office. This health counselor, usually a teacher with a hygiene and home nursing license who has had previous nursing experience, is the liaison officer between the school and the health agencies of the community.

This service was extended to the vocational high schools. Today every pupil seeking admission to a vocational high school in New

York City must present a physician's certificate showing that he is physically capable of pursuing his chosen course. At one school, remediable physical defects such as carious teeth, defective vision, and impediments in breathing must be attended to before the pupil is permitted to graduate. Thus a powerful motivation is provided for obtaining the interest of the pupil and of his family in his own physical well-being.

4. Cumulative Records

The cumulative record is an indispensable guidance tool. The periodic, concise recording of all aspects of a pupil's career in and out of school serves not only as a challenge to the school to consider the individuality of each of its pupils but also as an evaluation of the school's services to that individual. If all human life is to be considered as a process of constant growth, if the schooling years are recognized as the most salient phases in that process, the need for discovering and recording elements of strength and weakness becomes apparent. Discovery is important in order to conserve valuable human resources; recording is important because over a period of time significant items, indicative of a pupil's whole personality, may be lost sight of. Also, teachers and counselors share the common frailty of poor memory.

Eurich and Wrenn list the following items which should "be studied in order that counselor or teacher may understand the student and the student understand himself . . . ."

1. The record of his previous school experience.
2. His aptitudes and abilities.
3. His home background and community environment.
4. His goals and purposes.
5. His interests, likes, and dislikes.
6. His social development and adjustment.
7. His emotional status.
8. His health record and present health status.
9. His economic and financial status.[15]

All of this information should finally find itself on the cumulative record. In addition, present school achievement, extra-curriculum ac-

[15] Alvin C. Eurich and C. Gilbert Wrenn, "Appraisal of Student Characteristics and Needs," *Guidance in Educational Institutions*, p. 34. Thirty-seventh Yearbook of the National Society for the Study of Education, Part I. Bloomington, Illinois: Public School Publishing Co., 1938.

ties and references to other sources of information should also be ɔrded.

The cumulative record card has many administrative uses. The ıcipal can determine at a glance whether a pupil's achievement is quate in terms of his ability. Employers, schools, civil service artments, and social agencies need not inquire in vain for a state- ıt calling for specific knowledge of the pupil. The award of honors, granting of acceleration in students' programs, the determining of ibility for graduation when such eligibility depends on more than ·e subject grades, and the study of how to adjust "problem cases" d not be left to vague recall or hastily summoned comments from chers.

5. Tryouts

Several decades have passed since vocational educators first iced that the enthusiasm of an entering student for the course of his ice did not always survive a few weeks of real work in the class- m and shop. Some came back requesting a transfer. Others quietly pped out of school.

One of the earliest provisions for meeting this situation was the tibule shop, in which every entering student was required to have aste of each curriculum offered in the school before he was per- ted to enter a specialized program. Research indicated a gratifying uction in the proportion of dropouts and transfers after such tibule shops were introduced.

Fundamentally, the vestibule shop and the junior high school are ed upon the same idea. Today, something equivalent to the tibule shop may be found in the industrial arts courses of many ior and senior high schools.

One difficulty with the vestibule shop in the vocational school is t it delays the progress of the student who really does know what wants to do, because he must spend several weeks or months loring occupations in which he has no interest. This may have tural value, but it does not advance him very rapidly toward ıpetence in his chosen field.

Another difficulty arises from the fact that a good tryout samples curriculum at various levels; often it must necessarily be very erent from the first few weeks of a training program.

Still another difficulty arises in schools offering a large number of

vocational curriculums, so many that it might require years for a student to have adequate tryouts in all of them.

For these reasons some schools now rely more upon other guidance techniques, co-operating in every way with the guidance activities of the prevocational period, providing extensive counseling service of their own at the time of entrance, and permitting students to transfer without embarrassment after a reasonable exploratory period. The number of such transfers that a student may make is limited only by the time he is willing to spend in sampling various curriculums. An excellent example of this program may be seen at the Milwaukee Vocational School.

To provide better adaptation of the school program to the differing needs of individual students, some schools have dropped formal curriculums and now have each student's course of study selected and planned individually under guidance. The school program itself is built around the needs and the programs of individual students, instead of the students being fitted into a predetermined program.

It should be noted that the difficulties cited in the foregoing paragraphs are less prohibitive if tryouts are well planned. The earlier tryouts are begun, the more time the pupil has in which to experiment. Early tryout is indicated by the consuming interest of so many boys in mechanical work, and it is a strong argument against the opinion that all vocational education should be postponed to the fourteenth or fifteenth school year. A good tryout program teaches fundamental skills which, if well taught, can be used in a variety of specialized occupations. The pupil needs only to use the time that is now often so generously wasted on subjects in which he is uninterested.

6. Social Welfare

Social welfare service is organized to ameliorate economic, social, family, and other conditions interfering with the pupil's developmental processes. The school itself is not the agency for such amelioration, but is rather the focus of incitement and check-up. Every community agency must be made available in the interest of the child.

7. Teaching Occupational Information

Group instruction in occupational opportunities and requirements, providing a basis for comparison and more intelligent choice, is now a recognized part of the core curriculum in many academic high

schools. While the necessity for that particular type of instruction is necessarily not as acute in a vocational high school, it is still an essential of a sound educational program. As has already been noted several times, individuals and occupations change. In this age, four years is a long time. Boys and girls must keep up to date both as to the particular vocations they are learning and as to other vocations. General occupational conditions change. All these must be included in a live curriculum and the curriculum of the vocational school is nothing unless it is alive. The acquisition of this knowledge should be the result of teaching "occupational information."

The specific organization of the instruction will vary from school to school and may come through a number of different channels in any one school. A separate course may be organized. Some of the content may be included in the social studies classes. More will be taught in English classes. More generalized phases will be the subjects of homeroom discussion and the topics of articles in the school paper. Shop talks and discussions will focus upon occupational conditions, and counseling will drive home that information which is particularly applicable to an individual.

8. Personal and Social Adjustment

Research on reasons for discharge of employees in a variety of industries has revealed that about two-thirds of such discharges occur because of deficiencies in personal qualities, in habits, attitudes, and human relationships, while only about one-third are caused by technical incompetence.

It is certainly true that the greatest contributions to a child's personality and character are made years before he enters the vocational school; but it is also true that many work habits and work attitudes are developed or modified during the period of vocational training. Given reasonably good material to work upon, the vocational teacher can do much to encourage the personal characteristics that will make for vocational proficiency and job satisfaction.

Man must know not only how to work but also how to work in co-operation with his fellow men. With very few exceptions, occupations are as gregarious as society itself. Inability to get along with co-workers in the end means shifting from job to job. The demands of employers for personable young workers—young workers who recognize some of the amenities of social living, who can speak with

more than a modicum of politeness, and who can listen politely, who have some recognition of accepted mature behavior—have to be met by the schools. Some schools devote some part of the program to formal treatment of the problem in the form of personality training classes. Others stress it in the homeroom and in the assembly programs. The actual inclusion of such formal teaching in the school program assures some degree of adequate treatment.

9. The Advisory System

One of the best means of assuring the school that its guidance services will reach every pupil in the school is through the permanent advisory system.

a. The Adviser. The teachers in a school of any size meet too many different boys and girls within too short a time to be able to take any continuous interest in or responsibility for all of them. This is also true of the one or two or even half dozen counselors who may be assigned to the task. Moreover, if there are several counselors, it is desirable that each person specialize in some one phase of guidance. Nevertheless, it is essential to the success of any guidance program, in fact of any educational program, that each pupil be the continued responsibility of someone. This is accomplished by having each teacher act in the capacity of adviser, actually in *loco parentis.* Immediately upon admission to the school the pupil is assigned to the adviser and is responsible to him for the entire length of stay in school. Under normal conditions the adviser will receive one new pupil each month and would have daily contact with him for four years. It is the adviser who is responsible for seeing that all the services of the school—curricular, extra-curriculum, guidance, personal—are brought to bear upon each pupil in his section. He provides continuity and inevitability of service. Advisers of full-time pupils may be programmed for one full period a week for counseling; advisers of part-time pupils, for five periods.

b. The Homeroom Period. The homeroom period is primarily a group of guidance and teaching period. It should serve many purposes beyond the purely administrative functions involved in a teacher heading a school unit. Beyond attendance, issuance of report cards, and the like, the homeroom is the source of co-operative activity bent towards the realization of a school unified in spirit and purpose. It serves as the home for the pupil where problems, either individual

or group, may be presented to a respected and mature teacher for solution—and where, likewise, the group as a whole will interest itself in the affairs of the school at large and in the activities of the members of the class.

Practice has shown that this daily contact between the pupil and his adviser provided by the homeroom period is one of the best means of developing rapport between the two. Pupils feel that the homeroom period is really what the name implies—a home in which they can freely discuss school and personal problems without sensing that the discussion is official and in which there is freedom from the inhibitions which usually surround teacher-pupil relationships.

10. Graduation and Vocational Competence

In 1936 the New York State Regent's Inquiry, in surveying pupil preparation for entrance into the social and economic life of the community, asked the schools to submit answers to the following items in a questionnaire for each graduate.[16] A graduate's ability to meet the criteria implied in these items is one method of evaluating the school's services to him as an individual and to the community.

13. At the time this pupil was graduated, could the school have recommended him (her) for any type of full-time employment which would have permitted self-support, with confidence that (s)he would be reasonably successful at this employment?
(check): (1).....Yes. (2).....No

a) If "yes," select from the following list those characteristics which this pupil possesses, and number them according to their probable value to this particular pupil (number 1 signifying the greatest value) in meeting competition for a job.

.....An especially well-rounded general education.

.....Specialized vocational education received in school. If this item is selected, indicate briefly the nature of the vocational education received.

.....Special abilities gained through out-of-school experiences.

.....Especially favorable personal traits (including social adaptability).

.....Physical development—appearance, health, strength, dexterity, or physical maturity.

[16] See Francis T. Spaulding, *High School and Life*, pp. 345-46. *The Regents' Inquiry, 1938*. New York: McGraw-Hill Book Co., 1939.

.....High general intelligence.

.....Unusual aggressiveness or persistence.

b) If "no," select from the following list those characteristics which this pupil possesses, and number them according to their probable handicap to this particular pupil (number 1 signifying the severest handicap) in meeting competition for a job.

.....Lack of adequate general education.

.....Lack of adequate specialized education.

.....Limited out-of-school experience.

.....Undesirable personal traits (including lack of social adaptability).

.....Deficient physical development (including physical handicaps, poor health, poor appearance, lack of strength, or lack of dexterity).

.....Mental handicaps (including low general intelligence).

.....Lack of aggressiveness or persistence.

14. At the time this pupil was graduated, could the school have recommended him (her) as ready to participate responsibly, sensibly, and honestly both in the informal, nonvocational phases of adult community life and in the more formal duties of citizenship.

(check): (1).....Yes (2).....No

a) If "yes," check from the following list the respects in which the particular pupil is likely to be an unusually constructive member of the adult social group. (Check):

(1).....Knowledge of his (her) formal duties as a citizen.

(2).....Active desire to fulfill his (her) formal duties as a citizen.

(3).....Understanding of current social and economic problems.

(4).....Interest in the solution of current social and economic problems.

(5).....Personal traits which make it possible for him (her) to "get along well" with others.

(6).....Active concern for the welfare of others.

(7).....High ethical standards.

(8).....Maturity of judgment.

(9).....General intelligence.

b) If "no," select from the following list those characteristics which this pupil possesses, and number them according to their probable handicap

to this particular pupil (number 1 signifying the severest handicap) in meeting his (her) obligations as a member of the adult social group:

.....Lack of adequate information concerning his (her) duties as a citizen.

.....Lack of interest in fulfilling his (her) duties as a citizen.

.....Lack of understanding of current social and economic problems.

.....Lack of interest in the solution of current social and economic problems.

.....Personal traits which make it difficult for him (her) to "get along well" with others.

.....Lack of concern for the welfare of others.

.....Low ethical standards.

.....Immaturity of judgment.

.....Mental handicaps (including low general intelligence).

Whatever the requirements for graduation may be, each pupil should know what they are at the time of admission to the school. He must be informed of his share in the education he is seeking. The "cardinal" aims of education must be a beacon light not only for principals and teachers but also—and even more so—for those who are being educated. It is axiomatic that pupil awareness of the aim of a lesson is important in the teaching of that lesson. It is much more important that the pupil know the aims of the whole educational process. If the pupil is aware of what the school expects him to accomplish, and the reasons—in terms of civic, social and economic ends, why that accomplishment is required—then the pupil is able to play an active part in his schooling. Requirements for graduation offer concrete goals. They are not merely evaluation of course credits.

11. Placement

The backbone of school placement always has been and perhaps always will be the personal contact of instructors with employers and the energetic application of students themselves to the problem of finding a job. Advisory boards may be of considerable help. Coordinators almost invariably are. Several recent investigations have revealed that more than half of the graduates and dropouts who do get jobs get them through direct personal application or through friends or acquaintances, that ordinarily a relatively small proportion find employment through the recognized placement office. This is

rapidly leading high schools and colleges, as well as vocational schools, to give more and more attention to instruction in how to get a job. Textbooks, motion pictures, and other instructional materials already are available.[17]

Placement offices are not being discontinued. They perform an important social service to employers as well as to applicants, and they may always be needed to help those who could not succeed in finding their own jobs. There is, however, considerable discussion as to whether the public schools should maintain their own placement offices or should turn this function over to the federal employment service which has been so extensively developed in the past decade.

The arguments usually advanced in favor of transferring this responsibility to the federal employment service are as follows:

1. It is more expensive to maintain two competing services.
2. It is more convenient for employers to deal with a single agency.
3. The federal service has the money; the local schools often have not.

The arguments usually advanced in favor of the schools retaining their placement offices are as follows:

1. The transition from the school to the first job provides many opportunities for effective guidance, which can be given better by the school which knows the student than by an outside agency which meets him for the first time.
2. The schools need the information obtained through placement work as a basis for revising their curriculums and their guidance programs.
3. Experience indicates that young and inexperienced graduates cannot compete successfully with adults registered in the federal employment service. They need special attention which most federal employment officers have not as yet provided.
4. The growing danger of dictatorship in our own country may be aggravated by giving the federal government additional control over the channels which lead to private employment.

[17] G. J. Lyons and H. Martin, *Strategy of Job Finding*. New York: Prentice-Hall, 1939.

J. T. Lynch, *Instructor's Manual for the Strategy of Job Finding*. New York: Prentice-Hall, 1941. (This manual is available only to those organizing a course in which the text will be used.)

5. Teachers, advisers, and counselors live with their pupils for three or four years and come to know them exceedingly well. The trade teachers are especially well acquainted, or should be, with the conditions in the trade which they are teaching. The double knowledge of both trade and individual creates a most favorable condition for effective placement.

In this argument neither side has yet convinced the other. It is not likely that either will. At this writing all one can say with confidence is that the transition from school to work represents one of the most important problems in the life of any young person, that it presents one of the most productive opportunities for realistic guidance, and that most vocational-training programs cannot do a thorough job without giving the most serious attention to this aspect of vocational education and guidance.

12. Follow-up

The difficult period of transition from school to work does not end with placement. For some persons it just begins. Foremen may be very different from teachers; and in a hundred different ways the enviroment of business differs from that of education. The co-ordinator who calls on young graduates and their employers from time to time performs one of the most effective of guidance services. His is the opportunity to help the young worker who may be learning for the first time that there are unpleasant aspects in all jobs, that unpleasant human relationships are not necessarily removed by changing jobs, and that employers may have good reasons for doing things that look strange to beginners. Likewise, he may have the opportunity to help the beginner decide when to look for another job and when to stay at the first one until he has given it a better trial. If further training is needed in evening school, the co-ordinator is ideally situated to help the young worker and his employer plan a program of mutual benefit.

But even more important than help to the student is the help that the school itself may get from follow-up studies in planning its work for the future. The percentage of placement among graduates from each of the school's curriculums, the time elapsed between graduation and placement, the nature of the jobs held, the comments of employers on the competence of students hired, and the everlasting problem of what happens to the dropouts all contribute information that may be invaluable to the administrator in planning the program

that will be offered to future students of the institution. For, while school programs must be geared to the needs of individual students, they will not meet those needs effectively unless they are geared also to the employment opportunities and the labor needs of the community. One way to keep track of the rapidly changing demand for workers is to note the relationship between the number trained and the number placed in each occupation each year. It is doubtful if any one activity will contribute so much to the revision of an educational program as careful study of what happens to its graduates and dropouts. In this connection one must not, of course, overlook the homemakers and the future farmers who so frequently create their own jobs!

IV. Administration

Who is going to do all this work? The principal? The teachers? The co-ordinator? The placement officer? Or some person assigned to guidance alone?

In all schools large or small, academic, vocational, or comprehensive, the classroom teacher has certain guidance responsibilities that can never be delegated to others.[18]

In very small schools the principal is necessarily the chief guidance officer. As schools increase in size, the responsibility for leadership may be assigned to the co-ordinator, the placement officer, the chairman of a guidance committee, or to a teacher released part-time to become a counselor. Such a counselor will not take over all counseling, but will seek first to be helpful to teachers in handling the more difficult cases and, through such case conferences, to improve the quality of counseling throughout the school. Even in large schools, with several full-time counselors, a large share of the routine counseling is done by teachers and the aim of the counselors is, or should be, to supplement rather than to replace.

1. Organization of School System

In a large school system the effectiveness of the guidance services of any one division in the system (the junior high schools, the elementary schools, the general high schools, the vocational high schools) depends upon the services offered in the other divisions. The comprehensive information concerning pupils moving in from one

[18] Edwin A. Lee, "The Shop Teacher as Counselor," *Occupations, the Vocational Guidance Magazine*, XV (November, 1936), 107-10.

school should be made available to the new school. Counselors and other guidance workers must be acquainted with the opportunities for training offered by all of the schools. More than that, they must know the schools thoroughly. Otherwise, there is too much possibility of pupils being misdirected.

Co-ordination of all of the system's guidance activities under the supervision of a director of guidance or some other official in charge of pupil personnel makes the task of all concerned—principals, counselors, homeroom advisers, and most important, the pupils themselves —so much easier. Such co-ordination supplies the schools with some degree of uniformity in record keeping, admission policies for the high schools, the teaching of occupational information, and effectiveness of the placement of graduates. It tends to remove the inequalities and inadequacies that exist when each school works out independently of all others its own salvation in regard to guidance. In fact, the administration of all of the functions of guidance mentioned earlier in this chapter depends, to a large extent, upon such organization.

On the other hand, central administration must operate judiciously through the principals who are severally responsible for the entire programs of their own schools. Responsibility and authority must go together. Friction, antagonism, and inefficiency have resulted in more than one city in which the director of guidance was authorized to give direct orders to counselors in schools for which principals were supposedly responsible.

It is the delicate task of the guidance director, as of other staff officers, to win his way by enlisting the co-operation of principals rather than by trying to force his will upon them.

2. Flexibility and Individual Programming

A school with a guidance program such as the one outlined in the foregoing pages is daily put to the test of meeting the needs and programs of individual students. As these needs become apparent through the friendly, intelligent, sympathetic counseling of the pupil's adviser, they must be met. Otherwise, the program is meaningless.

Problems, such as special long-view programs of acceleration for bright pupils or adjustments for pupils who are retarded much beyond their years as the result of earlier difficulties, may be planned by the head counselor in co-operation with the subject teachers. One pupil may need more trade drawing, another less mathematics. Still

another may desire additional shop experience, while a fourth may be particularly concerned with getting more related science.

To be effective, individual programming must be free from rigid credit requirements for progress from one grade to another. The test in each case should be the best interests of the education of the pupil concerned.

3. Research

As the world grows more complex, youth is faced with problems of ever increasing difficulty. Almost all teachers now appreciate the fact that their responsibility for guidance of youth is at least as important as their responsibility for teaching their assigned subjects. The vast social changes brought about by the present world conflict will probably accelerate this trend toward an ever greater responsibility on the part of the school for aiding pupils both in their adjustment to the bewildering conditions of the present and in their intelligent planning for the future.

Who is to guide those who are responsible for this guidance? If all the problems confronting the youth in school could be met by picking appropriate solutions from an unlimited storehouse of knowledge belonging to the guidance counselor, the whole process of guidance would be quite simple. In many cases, however, the problems confronting pupils raise even greater problems in the minds of the counselors to whom they apply for aid. The guidance counselor is not a drug clerk selling packaged goods.

To these problems there are four general approaches—the fourth being the least overworked. (1) We may declare them impossible of solution; (2) we may minimize their importance; (3) we may even deny their existence; or (4), if we are truthful, courageous, and hard-working, we meet these problems squarely and set about solving them. Leaders in the field have begun to accept the fact that a research service is an essential phase of an adequate program of vocational guidance.[19]

Ordinarily, a school does not establish a research service and then look for problems. More often existing problems initiate research activities, provided these problems confront staff members who have been adequately trained to recognize them and to undertake their solution in a systematic way. As the beauty in the rough marble exists in the

[19] For a discussion of the research service see George E. Myers, *Principles and Techniques of Vocational Guidance*, chap. viii. New York: McGraw-Hill Book Co., Inc., 1941.

sculptor's mind, so problems exist only in those minds which perceive them.

Since the primary function of research in vocational guidance is to increase the efficiency of the other guidance services, it may be desirable to indicate the type of study which might profitably be undertaken in admissions, occupational information, testing, welfare, and so forth. For instance, a statistical study of entering pupils can tell us what kind of students we are recruiting from our various sources of supply—the admissions office requires such information for effective operation. Investigations may be initiated for the purpose of increasing the effectiveness of the cumulative record card as a guidance instrument: Are teachers' estimates of pupils' character and work traits valid and reliable? How can they be improved? Do teachers' marks reflect individual growth, or adherence to group standards? The testing service will undertake periodic evaluations of its instruments: Are the tests in use the best available? Inquiries into placement and follow-up may not only result in improved techniques in these services, but may throw some light on the effectiveness of the guidance program as a whole.

V. Conclusion

In conclusion, there is need for one word of caution. Enthusiastic propagandists for guidance sometimes have made extravagant claims for it. In contrast, the experienced guidance worker of today will state with the utmost candor that no one knows enough to tell anyone else what occupation he should follow and that no guidance program is likely to bring in the millennium anticipated by some of his predecessors. But careful, patient work over several years, with constant revision in the light of partial success and partial failure, should bring to any school improvement in the caliber of entering students and a curriculum better adapted to those admitted; should result in appropriate provision in one or another school for those who do not meet the exacting standards of the highest level of training; should achieve a reduction in the number of dropouts and transfers, a better adjustment for all pupils while in school, and a better placement service; and should insure better work on the job for which the school offers training. The reader will please note that all of these desirable results are stated in terms of improvement, not perfection. Moderate improvement is about all that one may reasonably expect from any change in educational procedure.

CHAPTER VI

METHODS OF TEACHING

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I

THE PROBLEM OF METHOD IN VOCATIONAL EDUCATION

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I. WHAT IS METHOD?

Method is "a general or established way or order of doing anything or the means or manner by which it is presented or taught." The dictionary definition is a clue to the disrepute into which method often falls. The "general or established way" easily becomes an outmoded and inefficient way. So, there are good methods and bad methods. We speak of a good way or a best way of doing things. Practically, it is the way that accomplishes its purpose in the shortest time, with the least expenditure of energy, at lowest cost, and with a maximum of pleasure. If we are talking about a method of teaching, "maximum of pleasure" means that the learners and the teacher are eager and interested. No method is wholly bad because it does not fully meet all these criteria, nor is it wholly good because it does. Method is a function of time, place, materials, and people. What is good method in a large urban school may be poor method in a small rural school, and vice versa. But, in any case, it should be the "best" way, under the circumstances, of learning something.

II. GENERAL METHODS

The wise vocational educator will take any good textbook on method, and there are many, and note how methods are interchangeable when these situations are similar. As described by Bossing,[1] for the academic high school, they can be applied throughout the vocational high school, and as described by Struck[2] for industrial arts and voca-

[1] Nelson L. Bossing, *Progressive Methods of Teaching in Secondary Schools*. New York: Houghton-Mifflin Co., 1935.

[2] F. Theodore Struck, *Creative Teaching*. New York: John Wiley & Sons, 1938.

tional education, they can be applied in the academic high school.

a. The Lesson Plan. Whatever is to be taught economically must be planned. If it is something that can be taught to thirty or forty youngsters at the same time, the result is a group lesson. If it is something that each one must learn by himself or if each one must learn something different at the same time, it may be that thirty or forty different plans will be necessary. They may be known as assignment sheets, job instruction sheets, contracts, or what not.

b. Discussion Methods. Any good lesson may include a great deal of discussion. However, some topics are handled best through discussion alone. In recent years there have appeared many variants of what was first known as the socialized recitation. Forums, panel discussions, conferences, symposiums, and round-tables have all served a useful purpose in providing for the interplay of minds. The techniques are useful for the discussion of methods of work as well as for the discussion of literature. Well-planned, well-conducted, miniature town hall meetings, have a definite place in any type of school.

c. Demonstration. Some things are taught best by showing others how they work or how they are made. Obviously, such a method is especially valuable in vocational education; but it has a wide field of application in general education also, especially in the sciences and in physical training (the learning of games). People like to be shown; some will believe only when shown.

d. Aids and Devices. From the earliest teaching of the infant we always hear of "multiple sense appeal." Such appeal makes use of a great variety of aids and devices: visual, auditory, tactual, gustatory, and olfactory. Pictures, models, radios, phonographs, diagrams, charts, or anything that opens up a new channel to the mind or gives a new stimulus to the will is an aid to teaching. Needless to say, in vocational education these aids and devices often become major tools of instruction. However, in any type of school and in the teaching of any subject, such aids are invaluable.

e. Homework. Long and heated have been the discussions of homework as a device for teaching or, as some have said, for making up the deficiencies of class instruction. Yet, voluntary homework would be the highest expression of the pupil's joy in learning and, curiously enough, the most exciting kinds of homework have been model airplanes, model boats, radios, and other "hobby" activities through which the makers learn more than they could ever learn at school. Teachers who are alert to the instructional possibilities of homework, especially

of this creative type, have made full use of it in their schoolwork. An interesting experience in vocational schools has been the observation that pupils who had to be driven to do their elementary-school homework have voluntarily spent countless hours upon notes, drawings, and other book tasks, because it enlivened and enlightened their manual work in school.

f. Tests and Evaluation. Examinations and tests are methods of discovering what the pupils have learned. More recently they have been considered diagnostic rather than conclusive. The advantage enjoyed by the vocational school arises out of the exactness and inevitability of its own peculiar type of test. If a pupil gets the job of overhauling a defective gas engine, he passes his examination when the engine works. If he turns down a piece of steel to a definite dimension, to one one-thousandth of an inch tolerance, he passes his examination when he passes the steel through the micrometer at that dimension. If he makes a product for sale, he passes his examination when somebody buys it. These are very worldly and practical tests. They are evaluations of the pupil, of the teacher, and of vocational education.

III. Special Methods in Vocational Education

If a method is "good," it is good because it accomplishes its purpose most economically in a particular situation. In vocational education there are several particular situations that recur so frequently that they give rise to methods that may very well be called "special." Sometimes they occur within the framework of general methods, sometimes they are almost peculiar to vocational education, and at other times they overlap these areas. In any case, they deserve notice and often require emphasis.

a. Shop Work. In vocational education at least 50 per cent of the time, often much more, is devoted to shop work. Shop work is a generic term for job activity duplicating or closely simulating activity on the actual job. The "shop" may be really a shop, a machine shop, a woodworking shop, an electrical shop, or it may be a store, a beauty parlor, an office, a galley, an engine room, a barn, a field, or a home. It is a place where people are learning to work for a living. In a sense it is the place where people learn to do and do to learn. It is a place where the objective is so clear, the goal so patent, that the situation is self-motivating and knowledge is a by-product of activity. Words are at a minimum: there may be no words at all. Multiple sense appeal is at a maximum, especially seeing and feeling.

b. Individual Instruction and Projects. While most types of work call for a high degree of co-operation, the activity is usually so organized that at any single moment each worker is working by himself. He has a little job which he alone must complete. This means that he may be taught to do a little job, one little job at a time, and that he may be taught a different little job from that of the boy next to him. In other words, it is possible to give individual instruction. On the other hand, all these little jobs often contribute to a big job—an engine, an automobile, a boat, a house. So, if the school is to be realistic, it must teach boys and girls to work co-operatively toward the creation of something large and useful. In school this is often called a project. The social, as well as vocational values of project teaching are obvious.

c. Extramural Education. The school is, at best, a compromise, a makeshift. Jobs can be best learned on the job. Or it would be better to say, jobs should be best learned on the job. However, changing technologies have made such learning slow, hazardous, impracticable, or quite impossible. So the job must be brought into a special place called a school, and the pupil should be brought into contact with the real job on every possible occasion.

d. Special Aids and Devices. Such development is bound to produce special ways of teaching each type of work. Sometimes these have only limited application but at other times they may become widely useful. Industry has its own ways, agriculture has other ways, commerce still others. These special aids and devices are described in the following sections.

II

AIDS AND PROCEDURES IN AGRICULTURAL EDUCATION

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I. METHOD

Method includes the procedures, aids, and content utilized in the teaching-learning situation in order to reach teaching objectives. Predominantly course content is set up in terms of objectives. These objectives are most frequently stated in terms of abilities and attitudes—in terms of changes to be brought about in the learner. The procedure

most widely used in teaching vocational agriculture is commonly known as a problem-solving procedure. The usual steps in problem-solving teaching in groups or classes are as follows:

1. Discover the difficulty or difficulties *in a situation.*
2. State the problem which, when solved, removed the isolated difficulty.
3. Analyze the problem to see how to solve it.
4. Find needed information and solve the problem individually.
5. Pool findings and decisions in arriving at a final conclusion.
6. Practice.

II. Library

A library is essential in most teaching-learning situations, but a good library is indispensable in vocational agriculture. Following a textbook is unwise in almost any area of instruction, but it is unforgivable in agriculture. The term agriculture includes much: in fact, it embraces large portions of the physical and biological sciences as well as of economics and sociology.

New findings or facts are being constantly reported by the various experiment stations, the United States Department of Agriculture, and many other agencies. These findings are usually reported first in bulletins or circulars published by the different agencies. Therefore, teachers of agriculture make much use of bulletins and circulars. However, books play an important part, and every department of vocational agriculture should have a set (one for each two students in the class) of the latest and best book in each enterprise or subject included in the course of study in vocational agriculture.

III. Notebooks

An important aid in agricultural education is the notebook. This is especially true if the most effective use is to be made of the problem-solving procedure. In the notebook used in Kentucky the learner states the problem, lists the things to consider in solving the problem, selects references and decides on other sources of needed information, and finally writes his carefully worded conclusion. The conclusion must be justified by supporting evidence. The learner not only keeps a record of the solution of the problem at hand but develops a systematic procedure for solving other real-life problems. The list of references, the conclusions, and the facts included in the supporting evidence make the notebook a valuable reference for future use.

IV. Supervised Farming Programs

Supervised farming programs should be made central in vocational agriculture. One of the initial steps in supervised farming programs is to determine the nature and scope of the things each boy is to include in his program. The teacher has the responsibility of directing the boy in this activity. To do this intelligently the teacher needs to have personal knowledge of the boy, the boy's family, and facts on the home farm. Usually each boy taking vocational agriculture is asked to get the facts on his home farm. These facts include the various crops grown and animals kept on the farm, total acres in the farm, per cent of plowable land in legumes, and other pertinent information. Supervised farming programs consist of three phases: productive enterprise projects, improvement projects, and supplementary farm practice. It is desirable to have goals or standards in any undertaking. Teachers of vocational agriculture have the responsibility of guiding the boys in setting up standards for supervised farming. Unless boys have a clear picture of what they can accomplish, they will likely fall short of what they should achieve. It is essential that boys be directed in setting up their own standards rather than have standards set up by the teacher or someone else. Standards that are set up by the boys, discussed, and approved by them, are more likely to be accepted and the boys are more likely to strive to attain them. Standards must be attainable; yet, they should be high enough to require serious effort in order to reach them. Standards set up by a department of vocational agriculture should include the number of projects per boy, acceptable and desirable scope of each project, production to be attained, that is, the number of pounds or bushels to be produced per acre or the number of eggs per hen, and other similar goals. Standards must take into consideration the age of the boy, the number of years of instruction in vocational agriculture, and his facilities for carrying out a satisfactory farming program. In setting up project goals, the production being attained in the county or community should be taken into consideration. Much information needed in setting up supervised farming standards can be obtained from census reports, farm surveys, local experiment fields, and records that have been kept by students in vocational agriculture.

a. Record Books. Records kept by the boy or young man in vocational agriculture should be as simple as possible and yet should be adequate enough to secure the learnings which the teacher feels should be secured.

Record books vary somewhat from state to state, yet all of them incorporate the same essential features. Practically all books provide space on which the boy can record pertinent information about his own home farm, such as crops raised, livestock kept, feed needed, etc., as well as the topography and general fertility of the farm. There is also an inventory sheet on which the boy records his livestock, tools, equipment, and other items of value, and they provide space for him to appraise these items at the beginning and end of the year.

Space is provided in the record book for the boy to write his project plans. Plans are essential to a successful farming program and are necessary if the teacher is to secure the learnings he should secure. Without plans little teaching can be done in connection with the supervised farming program. Plans should include a clear, simple statement of the scope of the project, the rental agreement, definite estimates of probable costs, probable receipts, and probable returns. The boy is guided in making a thorough study of the approved practices to be carried out and is directed to write down clearly and definitely what "production jobs" he plans to carry out and how he plans to do these jobs. Record books contain space for the boy to report what he "did and observed," and blanks are provided on which to record items of expense, labor, and sales.

b. Progress Reports. Another effective aid in teaching agriculture is the progress report. An opportunity to compare achievements with other members of the class is stimulating and results in carrying out more effectively the necessary practices in order to reach desired production goals. The progress report is just what the name denotes: a report prepared while the projects are in progress. Let us take, for example, a situation in which a large number of the boys have hogs as a major productive enterprise project. The teacher and the boys prepare a chart devoting the different columns to factors affecting profitable hog production, and then the facts on each boy's project are entered on the chart under the appropriate headings. At least once a month the pigs are weighed, the weights are entered on the chart, and facts on feeding and other practices are brought up to date and evaluation of the progress is made.

c. End Reports. The main justification for keeping project records is their use in analyzing the results of the students' activities and, in the light of these results, improving future accomplishments.

Project record-keeping should be incidental to the larger purposes of analyzing project outcomes and modifying plans for future improve-

ment. It is not to be expected that students will become strongly interested in record keeping merely for its own sake. It is highly important that they appreciate the uses which correct and accurate records may serve, and that they learn how to keep such records. Students need to see how records can explain the reasons for success or the lack of it in project work. Typical end reports for animal projects include the following columns:

Kind of Animal Project

1	2	3	4		5	6
Boy's Name	Degree of Ownership	Head	Production		Total Credits	Total Charges
			Total	Per Head		

7	8	9		10	11		13
Labor	Pupil's Labor Earnings	Hours of Labor		Price Received Per.....	Cost of Producing A.....	Per Cent Feed Cost Is of Total	Returns Per Dollar of Feed
		Self	Hired				

14						15
Production Practices						
Breed or Variety	Born		Number Raised			Remarks
	Date	Number				

End reports are desirable teaching aids in that they enable the learner to evaluate the results of his efforts in carrying the different phases of his productive enterprise project. Using end reports enables the students to compare and examine records and to answer such questions as:

1. How do the results compare with the standards?
2. What was the relation of yield or production to the income and to the cost of production per unit?
3. What were the chief causes of the differences noted?
4. Why was the income from some projects higher than that from other projects?
5. What practices helped most in securing satisfactory yield or production?
6. Which practices were responsible for limiting yield or production?
7. On the basis of the facts shown, what changes should be made in the

conduct of the respective projects in order to increase the income from them?

8. What differences are unexplained by the facts presented?

9. What additonal information is needed in order to reach a more satisfactory judgment on these questions?

III

METHODS OF TEACHING IN BUSINESS EDUCATION—CLERICAL AND DISTRIBUTIVE

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Space will not permit a full discussion of many of the "special" methods which have been the subjects of heated discussion in this field through the years. Nor would such discussion be appropriate for a chapter in this Yearbook. But there are a few methods of great importance to school administrators which should be mentioned briefly with a view to stimulating further study of them in the interest of greater efficiency in business education. Each of the methods selected for brief treatment is important to the administrator because it may increase the cost of business training, unduly prolong the period of training in a given course, cause discouragement with consequent failure and repetition of a course, result in lack of ability to meet initial job requirements, or crowd out desirable general-education courses.

I. WIDE VARIATION IN METHODS

In the field of business education will be found a wide range of subjects including those like *typewriting* which involve a large amount of manipulative skill, those like *bookkeeping* which call for the development of understanding of basic principles and clear thinking in their application to concrete and often complex business situations, those like *business law* in which the study of textual material and discussion of it are intended to result in such knowledge of the law as will enable one to avoid legal entanglements, and those like *consumer economics* which is intended to result in a sound attitude toward one's personal economic life, more than average ability to solve one's financial problems, and good habits in the handling of one's resources.

Obviously, methods that seem especially appropriate with one group of subjects may be wholly useless in others. But for purposes of this brief statement it may be assumed that principles of teaching

which are acceptable for use in teaching what are called "academic" subjects are equally well suited to the teaching of the background business subjects (business law, business economics, economic geography, etc.), the consumer business subjects (junior business training, consumer economics, etc.), and the basic principles of the prevocational subjects (beginning shorthand, beginning typewriting, beginning bookkeeping, etc.).

It is quite as important that special principles and methods whose adaptability to any skill subject has been proven in several other vocational fields shall be adopted by teachers of business skill subjects. It must be recognized, however, that special methods necessary to the development of the peculiar skills needed for store and office work must be developed also.

1. The Contract Plan

In education, that year which produces no new panacea for all the ills of the classroom may be counted as lost. Scores of "plans" have come and gone. But each of these new schemes, by whatever name it was called, has left its mark on teaching procedures; has contributed something of value to principles of teaching.

The "Dalton" or "contract" plan, for example, is not suited to the uses of teachers of skill subjects in the development of occupational skill up to minimal employment standards. But it is almost indispensable to such teachers if they wish to assure to their trainees some degree of *occupational intelligence* or *understanding* without undue encroachment on the laboratory time, all of which is needed for the development of essential skills.[3]

Here is how it works. "Homework," in the usual sense of that term, is not feasible in business skill courses. Most of the practice work must be done in the laboratory or office or store where the work units, equipment, supplies, and co-operating personnel are available. And yet credit for these *laboratory* courses usually is based on the assumption that time out of class is required.

Something more than a business skill is essential to success in occupational life. Understanding of how a business is organized, into what departments it is divided, what promotional opportunities await the worker, what will be required of him in the way of dress or deport-

[3] Frederick G. Nichols, "Neglected but Essential Outcomes of Vocational Training—the Contract Plan for Achieving Them," *National Business Education Quarterly*, X (December, 1941), 11.

ment or loyalty, what wage can be expected at the outset, what will be the basis of the wage paid, and what personnel problems are likely to be encountered are all matters of great importance to the graduate in his first position.

These things can be made the basis of a modified contract plan of teaching and thus nearly double the achievement of vocational business students without the utilization of additional scheduled periods. Each student is expected to select a certain topic from a list including wages, dress, promotional opportunities, loyalty, hours, and scores of others, and enter into a "contract" to investigate it and report upon it in writing. The report, when revised and properly boiled down, is duplicated and made available to the whole class for study. Discussion by extra-curricular groups may follow. An acceptable report is filed as a permanent part of the department's collection of material on jobs and their requirements, to be replaced later by a better report on the same topic should one appear. An objective test on each report should be used to make sure that each student in the group acquires not only the occupational information obtainable through independent work on his topics but also that made available to him through similar work of his classmates.

2. The Project Method

The "project" method also left its mark on teaching procedures. Teachers in the agricultural, industrial, and homemaking fields have utilized this device extensively. But business teachers have been slow to recognize its inherent worth. They are still too much concerned with lessons, budgets, exercises, drill, and similar assignments.

In all business-skill courses the project should have a prominent place, ranging all the way from simple laboratory projects at first to complex work-experience projects in a real office or store near the conclusion of the training period. Only in this way can willingness and ability to assume responsibility on the job be developed under school conditions.[4]

3. Co-operative Training

It is almost axiomatic in other vocational fields that occupational contacts must be included in any sound program of training. But

[4] Stephen J. Turille, "The Project as a Device for the Improvement of Instruction in the Business Skill Subjects," *National Business Education Quarterly*, X (December, 1941), 15.

business educators have been slow to recognize the importance of this feature of vocational training.

In all advanced business courses at the point where vocational preparation has progressed far enough to insure minimal occupational skill, provision should be made for occupational contacts—in-school jobs at first, out-of-school jobs later, the latter merging into full-time employment if possible.[5]

4. Intensive Methods in Clerical Training

In the machine clerical courses, now becoming popular on the secondary-school level, those methods of teaching which are adequate to the development of vocational competence in the operating of the machine taught should replace those superficial methods which at best result only in slight acquaintanceship with the machine and no ability to operate it. The former methods require more equipment, but yield results commensurate with the expenditure. The latter methods serve no useful purpose that cannot be served less expensively in other ways, in terms of both time and money. Many office-machine rooms with but one or two samples of each kind of machine look very attractive and impressive to the uninformed but yield no satisfactory results in terms of marketable skills.

II. Controversial Issues in the Field of Method

In each of the three major subjects of office training, controversy has raged through the years over the best "method of approach" in teaching it. The "functional," "manual," and "direct" methods of starting a course in shorthand all have their adherents. The one that gets the most publicity is the most popular—for a time. The "balance sheet," "journal," and "ledger" methods of approach in the teaching of bookkeeping have had the allegiance of the majority of teachers, each in its turn.

Probably the greatest blunder, except one, made by business teachers in the past two score of years is that which has to do with the almost universal adoption of the "touch" method of teaching beginning typewriting. Here an end was mistaken for a means. Because ability to type with eyes fixed on the copy is an essential outcome of the training of a typist, it is assumed that the beginner must be prevented from looking at the keyboard while trying to master the location of the keys.

[5] Alan C. Lloyd, "Occupational Experience—An Essential of Vocational Business Training," *Education*, LXII, (November, 1941), 153-63.

This has led to blank keys, shields, blindfold, darkened room, and many other devices to prevent looking at the keys. Thus, it has come about that in teaching one to type by the "touch" method we have the only instance in life where spatial relationships must be learned without the aid of the sense of sight—where the use of the one most helpful sense is prohibited for no good reason at all.[6] Until the serious implications of this method of teaching are clearly understood, it is safe to assume that two or more years of instruction will be required to achieve what should be accomplished in one, and at the expense of other much worth-while learning that would contribute to the ultimate success of the student as a typist and to her ultimate happiness as an individual.

III. Methods Inconsistent with Vocational Objectives

Methods now being employed in advanced vocational shorthand and typewriting courses are designed to produce outcomes quite different from those identified with occupational competence.

The goal of vocational shorthand is one hundred or more words per minute taken from dictation in the short space of five or ten minutes. Teaching methods used are suitable for the achievement of this objective. But stenographic competence is not proven by ability to take rapid dictation reasonably well at that rate of speed for such a short period of time. It is attested by one's ability to take normal dictation (from seventy-five to ninety words per minute) for a period of an hour or more and to transcribe acceptably what has been taken at a *rate of thirty or thirty-five words per minute* for the entire transcription period. Here the emphasis is shifted from the "take" to the "transcription," and the latter standard cannot be met through the use of methods that are based on the former objective. Here again the administrator is concerned with the methods used, since the product of his school is his responsibility.

Methods used in advanced typewriting tend to center on the development of ability to type more net words per minute, from copy, for ten or fifteen minutes. But the objective of vocational typewriting should be occupational competence, and the typist devotes most of her time to jobs other than those of the copying type. It has been shown that there is not necessarily close correlation between copying speed and production speed on composite typing jobs. Here again methods

[6] August Dvorak, Nellie L. Merrick, William L. Dealey, and Gertrude C. Ford, *Typewriting Behavior*. New York: American Book Co., 1936.

more appropriate to the achievement of the desired result should be adopted.

Just one more subject should be mentioned here—bookkeeping. In a previous paragraph there was an implication that some other mistake in teaching method since the turn of the century may have been more serious than the "touch" method approach in the teaching of beginning typewriting. "Actual business practice from the start" in the teaching of bookkeeping was meant. But this very confusing method has long since occupied a minor position in this field of teaching.

More recently, however, equally questionable methods have been developed for use in *vocational* bookkeeping courses. The objective of such a course is ability to keep a set of books and interpret the resultant records. It seems reasonably clear that methods suitable to the achievement of these objectives will include much practice in handling accounting problems that involve the complete bookkeeping cycle from the original entry to the final closing of the ledger. Yet, of late, the emphasis has been placed on detached bookkeeping problems without that degree of connection and continuity which is essential in the development of ability to record a series of transactions in a going set of books, to make the proper postings, to draw off a trial balance, to set up a profit and loss statement and a statement of assets and liabilities, and to close the ledger. But this is the essential outcome of a vocational bookkeeping course, and only suitable methods of instruction can be relied upon to achieve it. Either such methods must be adopted or the vocational objective of the course must be abandoned.

IV. The Distributive Field

The distributive education branch of business training has been seriously neglected. The passage of the George-Deen Act gives hope that it will come into its own in the years ahead.

Because of the absence of courses in preparation for sales service, except bookish salesmanship courses, few methods, good or bad, have been developed in this field of training. Since the restrictions of the federal law are in line with those which have forced teachers under the previous vocational acts to adopt methods appropriate to the achievement of the ends in view, there is reason to believe that questionable methods such as have been referred to in this statement are not likely to become operative in vocational salesmanship courses established under the act.[7]

[7] Kenneth B. Haas, *Distributive Education.* New York: Gregg Publishing Co., 1941.

It may be mentioned that commercial teachers are prone to claim too much in the way of vocational outcomes of the teaching of a textbook course in salesmanship. At best the outcome of such a course can be only some degree of understanding of the basic principles of selling. Nothing short of work experience in selling can be counted upon to round out classroom training in salesmanship. And "demonstration" sales in a classroom, however well planned and executed, cannot provide what is needed. An office situation can be simulated in school; but not a sales situation. A sample voucher of a business transaction can be very real; but not a sample "customer."

The obvious import of these comments is that unless a vocational selling program can be a co-operative one in which appropriate work experience is assured, no attempt should be made to organize such a program. For federal aid under the George-Deen Act, such division of time between study and practice is required. This is no accident. It is the result of experience.

V. Administrative Responsibility

To do a satisfactory job of vocational training in any field, conditions under which instruction is given must be such that each element in the training program can be dealt with in an appropriate manner. The culmination of any such program should be practical work experience which alone can be depended upon to integrate what has been taught in courses. The whole time of the trainee should be available for this work experience during all of the final semester or as much of it as may be necessary in each program.

At some stages in skill training less than a full hour daily is enough. At others two or three hours are preferable. In some cases double or even triple consecutive laboratory periods are desirable. In shorthand transcription, where "cold" notes should be transcribed often, consecutive double periods are not always best. But in vocational typewriting, where composite typing jobs must be the order of the day, consecutive double periods are essential. It is customary, however, in nearly all schools to consider first the exigencies of schedule-making and to base the schedule on the many quite similar academic courses that require no laboratory time. Some adjustments are made for the vocational business courses but only those that will not seriously interfere with the smooth operation of the adopted schedule for the academic subjects. Scant consideration is given to the needs of quite different vocational courses which are essential to the achievement of the objectives of this

department of secondary education. So it comes about that instructional methods suited to wholly inappropriate conditions of instruction replace those that are essential to the achievement of the ends sought.

Unfortunately most school administrators have neither studied nor taught any of the numerous business courses. Naturally they are not equipped to supervise the teaching of these courses. But they are responsible for their outcomes. In the discharge of their supervisory function they at least should insist that methods of instruction being used in their commercial classrooms are justified by sound reasons and that those proven methods of teaching in other vocational fields which are equally appropriate for skill courses in the business field are employed. Better still, in large school systems, a competent supervisor of business education should be employed.

IV

NOTES AND AIDS IN SERVICE EDUCATION

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The selection of method in the service occupations will follow the same fundamental principles which apply to teaching in general or to any other specialized division of vocational training. It is essentially a choice of these methods and devices which will give the maximum assurance of learning with the minimum cost in terms of the efforts of the teacher or of the student.

I. THE SERVICE WORKER DEALS WITH PEOPLE

It is a peculiarity of the service occupations that the worker must not only learn to do specific jobs but must also deal with people in doing them. It is this latter feature which must be given special attention in training the worker and which creates special difficulties in setting up natural work situations in the service occupations. One may provide instruction or training in the school situation in many of the elements of household service until the worker is skilled in performing the unit jobs. However, she may still be poorly qualified to plan the day's work or to get along with her employer. The beauty operator may be expert in the performance of her job but unable to satisfy her customer. The waitress can learn to handle dishes and set tables but

can hardly learn to take orders and get them filled and served unless she has experience in getting along with cooks and customers.

In the setting-up of training for household service a real practice house is the first requisite. Since to take a class group into the home is to destroy the work situation of the home, some near approximation of the home must be provided. Some schools use a dormitory where the girls in training both give the service and utilize it. It is a better situation when the service is rendered for others because then the student is accountable to others for the giving of service, as was done in the Household Training Department in Portland in 1940 where a boarding house was used as a practice house.

II. Supervised Job Experience Desirable

To the degree that the teaching situation is not entirely normal, both as to job content and human relationships, it is desirable to provide supervised job experience after the worker is employed. While the forward-looking instructor will anticipate many of the situations which a girl will meet and will have laid the foundation for suitable adjustments, there still will be much which can only be learned on the job and which requires the intelligent and sympathetic guidance of the instructor. Foresight and careful planning will reduce the amount and will make more effective the supervised practice which must be given before the worker can be left to carry on by herself with reasonable assurance of success.

The training of household nurses and hospital attendants presents special difficulties in providing a natural learning situation because working around and waiting upon a well "patient" is not at all like caring for a sick person who is sensitive to every touch or sound. The elementary nursing procedures can be demonstrated and practiced in a school situation until efficiency is acquired but, since a real situation cannot be provided in the classroom, the instructing nurse should continue her work with the trainee after employment begins and until satisfactory service can be assured. If, however, the school is operated in connection with a hospital, the real work situation is provided during the learning period.

When the nurse aide goes into the home, in addition to giving nursing care, she may also have the management of the household. This is also a responsibility which cannot adequately be taught in a classroom and which requires the guidance of the experienced instructor who may help in the interpretations of situations and the planning of time schedules.

III. Protective Service Involves Special Hazards

The protective services by their very nature involve special hazards to the worker which the training program must anticipate. It is not enough to be able to figure out or to remember special methods of combat. The officer must have those methods thoroughly habituated until responses are automatic and their variation spontaneous if he is to safeguard his own life and protect society. Similarly, the fireman must not only know all the answers in the book and be able to appraise situations but he must be drilled until his responses become so well established that he will not lose his nerve or control in times of greatest stress.

IV. Standards of Service in Certain Occupations

Some of the service occupations closely approach the professions in the extent to which the employer or patron must rely on the discretionary judgment and the ethical standards of the employee or operator. Beauty culture is a case in point. The operator must not only possess certain skills and artistic ability but must also decide the type of treatment to give and must judge the effect it will have on the hair or skin of the patron. Fortunately the work of this occupation can be closely duplicated in the school laboratory and extended experience can be given under the immediate supervision of the instructor.

Methods of teaching manipulative skills and standard procedures are usually well understood, but the cultivation of a sense of propriety and of professional ethics in dealing with people are not subject to demonstration and do not lend themselves to practice exercises. They require a longer learning period and the acquisition of many experiences which can be interpreted and generalized.

Inasmuch as most of the work of the service occupations has to do with tasks which provide for the comfort and security of others and since the issues with people arise out of job situations, it is important that the worker see her job performance as the employer or patron is likely to see it. Training records which include patron appraisal, secured either during the training period or in the supervised job-adjustment period, may become the invaluable bases for individual and group conferences or discussions looking toward self-appraisal and continued progress in occupational adjustment.

V

INSTRUCTIONAL NOTES AND AIDS IN INDUSTRIAL EDUCATION

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I. OCCUPATIONAL ANALYSIS

Instructional material for all vocational teaching should be based upon an analysis of acceptable performance of what a practitioner of the vocation does. The two outstanding systems of occupational analysis are those of C. R. Allen,[8] who takes the complete *work jobs* to be done by the practitioner as the basis of the analysis, and of R. W. Selvidge,[9] who takes the *operations* composing the work jobs as the basis. Both systems evolved out of experiences in World War I.

Job sheets are prepared from the analysis, which represents what a machinist does. Some of the jobs are of an exercise type where the fundamentals of machine tool operations are involved. It is desirable, however, to have the pupil as he advances in the course produce usable jobs.

The effectiveness of trade training is measured in terms of how quickly the pupil entering industry is able to become both an efficient employee of the company in which he is employed and a worth-while citizen of the community in which he lives.

Progress toward reaching this goal of employability should be repeatedly tested throughout the entire training program of the pupil. This testing program involves three types of tests—oral, written, and performance. The oral test is a quick method of checking the *why* of

[8] C. R. Allen, *The Instructor: The Man and the Job*. New York: J. B. Lippincott Co., 1919.

[9] R. W. Selvidge, *How to Teach a Trade*. Peoria, Illinois: Manual Arts Press, 1923.

the job, the written test is designed to measure the related technical information not shown in the doing of the job, and the performance test measures skill, the ability *to do,* along with *how* to do it.

II. Work Experience

The vocational schools recognize very definitely the limitations of the training given in the school shops and the need for supplementing school shop experience with work experience on the job. This has been done in several ways; examples are co-operative part-time apprentice training and trade extension training or supplementary training. In either of these the learner is working on the job and spends a portion of his time in school. The time spent in school varies; in co-operative part-time apprentice training the usual cycle of operation is two weeks in school and two weeks on the job. In trade extension training the time in school varies from four to nine hours per week; it may be either day- or evening-school training. Close co-operation between school and industry is essential for success in this type of education. Such a program requires tactful and constant supervision.

III. Teaching Aids

1. Instruction Sheets

One of the more commonly used teaching aids for individual instruction in vocational education is the instruction sheet.

The instruction sheet is a general term used to describe four distinct types of material, usually designated operation sheets, assignment sheets, information sheets, and job sheets.

The operation sheets list the operations to be performed in doing a specific job. They are listed in order of performance and according to the set of the machine or the job to be done, which may or may not be in logical teaching order. Assignment sheets vary in form but, essentially, they specify or suggest collateral reading, study, inquiry, or drill. They may include exercises of the problem-solving type and are particularly helpful for work done outside of school shop, classroom, or laboratory. The information sheets contain specific items that relate definitely to the work at hand. They may contain suggestions for further study and may include not only thought-provoking questions but also objective test items that will serve as a check on the thoroughness with which the information has been mastered.

In contrast to the three types of sheets described in the preceding

paragraph, the job sheets are more detailed. They pertain to complete work jobs and are not to be confused with operation sheets which deal with only the elements of a complete job. Job sheets for the beginners should be more complete and specific than those used for the more advanced individuals. The latter should rely upon their own initiative and resourcefulness in determining how the job should be done. An illustration of a job sheet suitable for a unit in lathe work is here shown.

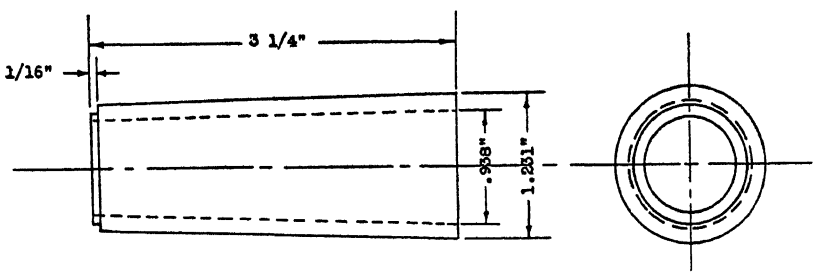
JOB SHEET

Lathe Work

Unit No. 1 Job No. 4-A

Name of Job: Tapered Sleeve

Objective: Use of Taper Attachment for internal and external tapers.



Tapers

Inside — .602"/Ft.

Outside — .623"/Ft.

General Information:

The outside taper is turned between centers, with small end at tail center. The relief is provided on the end so that the outside taper will not be spoiled when removing sleeve from machine. The taper attachment is set in opposite directions for external and internal tapers. Taper per foot for Morse Tapers is not a constant figure. Run tool back past tail center end about 2 inches, so that play may be removed before tool reaches work.

Procedure:

1. Mount stock between centers, stock being proper length.
2. Set taper attachment (Check direction).
3. Take trial cut and check with No. 4 Morse Ring Gage for proper taper.
4. Reset and take another check if necessary.
5. Finish to size.
6. Place in headstock spindle, using bushings if necessary.
7. Drill.

8. Bore, leaving .010" for reaming.
9. Ream to gage.

Cautions:

Do not let chuck run into compound when boring.

Some of the criticisms directed against the use of the job sheet are: pupil initiative is reduced; he is not required to think through the problem; the instruction becomes too routinized; the pupil will not, and in some cases cannot, read the instructions; it tends to make the instructor lazy.

These criticisms may be offset by the following claims: job sheets make possible the entrance of new pupils to the class at any time, enable the pupil to progress at his own rate of speed, promote more uniform and systematic instruction, do not depend upon word-of-mouth instruction, give pupil an opportunity to broaden his knowledge of the job, and promote safety and follow-up of work.

Job sheets are not necessary at every point in the trade-teaching process. In fact many bad habits of learning may be acquired if the learner depends entirely on a job sheet for every operation to be performed on the machine or for every step to be followed in doing each job. The beginner needs much help, but as he advances in the work he needs to develop initiative and resourcefulness, so that he may enter employment as a producer requiring a minimum of additional in-service training.

2. Drawings, Blueprints, Charts, Models

In machine work, as well as in many other trades and occupations, the mechanic or artisan usually obtains his information about the job on which he is working from blue prints, drawings, sketches, or specifications. When he is working from the blueprint or drawing, it is necessary for him to visualize the job in its three dimensions. Many devices and methods have been used to develop this ability to visualize the job, such as the making of drawings and sketches from models, the use of a projection box, and questions to be answered about a drawing.

In national defense training the need for shortening the time required to learn certain specific machine operations and to interpret instructions, such as reading a blueprint or an instruction sheet, has challenged the vocational schools to develop new teaching methods and aids. The following plan has been found valuable in meeting the requirements of defense-training courses:

1. A course outline based on machine operations required in the defense industries was prepared.
2. Instruction sheets based on job specifications were made.
3. Drawings of jobs involving these machine operations were made.
4. A display panel was constructed on which was mounted the instruction sheet, the drawing, and the finished job. This panel was placed in the shop where the trainee could inspect it. These jobs were arranged in order of sequence and show the relationship between various machine operations.

One of the problems in welding is to get the learner to visualize the stresses set up in the job when two or more pieces are welded together. There are several devices which may be employed for this purpose. One such measure is the use of rubber models. A sheet of green rubber approximately one-eighth inch thick is ruled into one-eighth inch squares. From this sheet pieces are cut showing sections of various types of welded joints. If the rubber is slit with a sharp knife up to the welded joint, the two parts may be separated. Holding the one end and pulling the other will cause the rubber to open in such manner that the concentration of stresses in the welded area will be disclosed.

3. Shop Manuals

Shop manuals should supplement the basic texts because of their up-to-the-minute type of information. Due to the time required in the editing and printing of a textbook certain information becomes outdated. Shop manuals are not so extensive in copy, cost less to prepare, are edited by experts in the field, and contain information that can be interpreted by the mechanic on the job.

In certain fields, such as aeronautics, automotive, electrical, radio, refrigeration, and others, new devices, gadgets, and improvements are being made continuously and require revision of the information previously furnished. This information must be available to the mechanic if he is to be kept up to his maximum of efficiency.

Fortunately for the schools, much of this material is available at a nominal cost and some at no cost. Smith[10] and others have prepared a list of teaching aids for the asking. Current trade magazines, professional periodicals and the Government Printing Office, Washington, D. C., are valuable sources of information on teaching aids.

[10] Homer J. Smith, "Teaching Aids for the Asking." Minneapolis, Minn.: University of Minnesota Press. 1931.

4. Films and Slides

In the motion picture[11] there has been made available to education an instructional tool of tremendous power in its influence on the accumulation of knowledge and ideas, on the development of attitudes and the direction of emotions, and on the shaping of such other patterns of human conduct as behavior skills, styles of dress, and modes of play.

The chief function of the motion picture[12] is to depict motion which may be either observable or unobservable. Through observable motion a complete process which normally extends over a long period of time and which may take place in various places may be recorded on the motion-picture film and brought into the classroom or shop. When accompanied with sound, its instructional value is increased.

Through unobservable motion, many processes in nature or in industry take place so rapidly or so slowly that it is impossible for the human eye to detect them. Through the use of the motion picture camera these movements may be photographed and projected on the screen.

Time-lapse photography, slow-motion photography, microphotography, miniature photography, and use of animation for focusing attention on certain areas, processes, or movements are examples of the many ways in which the motion-picture camera may be used for showing plant growth, time-study motion, or microscopic pictures of industrial materials.

Many of the manufacturing processes are now filmed by industrial concerns and furnish the student a wealth of information otherwise unavailable because of the "no admittance" signs on the entrance to many of the mills and factories. These concerns have been most generous in lending films to schools and other educational agencies at a minimum charge. The commercial studios with the help of the educator are producing films and slides in practically every field of work for use in educational work.

Rapid progress has been made in the filming of industrial operations to be used in time-motion studies and for the training of new workers. This is a phase of engineering that has contributed greatly in cutting production costs and in producing a better product. Progressive voca-

[11] "The Motion Picture in Education." American Council in Education Studies, Series II, Vol. I, No. 1, April, 1937.

[12] Henry C. McKown and A. B. Roberts, *Audio-Visual Aids to Instruction.* New York: McGraw-Hill Book Co., Inc., 1940.

tional schools are making full use of these teaching aids. They are particularly valuable in the short unit trade-training courses where the time factor of training is important. These are in evidence in the national defense training classes both in plant and in school training.

Our research workers and engineers have developed numerous visual aids that are now used in industry. The alert instructor will examine these with the view of carrying over into the shop and classroom some of these ideas.

VI

METHODS OF TEACHING IN HOMEMAKING

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What is good teaching in vocational education for the home? The special needs for vocational education and the methods which could be used to accomplish these were developed in the early years of this century. A specific statement summarizing experiences in the states in the early 1900's is contained in a bulletin published in 1914. United States Commissioner of Education, P. P. Claxton, asked Benjamin Andrews to study the records, to confer with leaders in this field of education, to consult state laws and records of state and city superintendents of schools, and to make a statement about the status of education for the home in schools and colleges. His report is contained in four bulletins of the United States Bureau of Education. It was three years after the publication of this report that the first vocational-education bill became a federal law. Several states had enacted laws by 1914 and Dr. Andrews concludes from his study of the situations existing in the country: "there can be no doubt that emphasis on the vocational aim is the one thing needed in the secondary and higher institutions."[13]

The type of education for the home which Benjamin Andrews defined as vocational is shown in the following quotations:

This emphasis on vocational preparation means that the problem is the teaching of homemaking (i.e., responsible direction of the personal life of the

[13] Benjamin R. Andrews, *Education for the Home*, p. 26. United States Bureau of Education Bulletin No. 36, Part I, 1914. Washington: Government Printing Office, 1914.

family group, a joint responsibility of men and women, chiefly administered by women), child care, housekeeping, control of the family or individual income, cooking, sewing, laundering, and other special household arts.

. . . . . .

Education for the home must equip for homemaking as well as for housekeeping; the personal relationships of the home, as distinguished from the work of the home. . . . .

In vocational instruction the child should undertake real projects. . . . .

Good teaching in a vocational subject throws upon pupils the responsibility for the plan of procedures, for problem solving in as large dimensions as they are capable of. . . . . Hence, good teaching means problem setting and discussions of processes and materials for its solution. There may be class discussions of problems, and the individual pupil may then undertake to draw up a way of procedure for her individual problem.

. . . . . .

School and home should co-operate. The school should teach in terms of home problems, as meals for the family and furnishings for definite rooms of the house, the school should use the housework of the home as a practice field; the home should use the products of school work.[14]

I. Teaching as Co-operative Planning and Experiencing

This concept of good teaching in vocational education for the home, expressed almost thirty years ago, still holds true and has dominated the program as it has developed through the years. Impractical activities, theory as separated from practice, and isolation of home and school cannot serve the purposes of homemaking instruction. On the other hand, determining *with* pupils and parents the problems of the home needing solution and planning for their solution is inherent in the vocational program of homemaking.

This necessitates discarding the concept of the teacher as a person who decides upon assignments, lessons, or courses to be followed by all pupils in a given grade or a series of grades. It involves, in contrast, learning about the homes, centering on real problems, planning, executing, and evaluating *with* pupils and their parents. In order to plan wisely, pupils need to go to reference books and to specialists for the help they need, to try out procedures in the laboratory and at home, to experiment, to use many kinds of visual aids (illustrative materials, exhibits, charts, tables, movies, field trips), to discuss how to proceed, what results are secured, and how they could have been improved, and

[14] *Ibid.* p. 26.

to revise plans and try again. Individual projects at home and at school, group and class projects, and school and community projects provide opportunities for valuable experiences in learning how to carry different kinds of home responsibilities.

II. Planning Experiences in Line with Capacities and Needs

In the selection of projects the capacities, home conditions, and personal and family needs of the students in the present stage of their development must be carefully evaluated. The capacities of young pupils may be stretched by the preparation of one food if they determine costs, plan amounts to be made and efficient procedures to be followed, and evaluate resulting products. For others, determining lunches to be selected in the light of the dinner and breakfast at home may be sufficiently complex. For older students, planning family meals for a day or a week, buying the foods, and preparing and serving meals within given costs will be more appropriate. For still others, planning with members of the family for food to be produced on the farm and to be conserved for year-round use in order to have a well-balanced diet throughout the year may be a challenging experience.

III. Homemaking Education as Experiencing Homemaking Responsibilities

Homemaking demands managerial ability; and homemaking education must provide experiences in managing time, money, and energy and in developing judgment as to which of these resources to use at a given time. Homemaking demands ability to make choices in the market place; and homemaking education must provide experiences in reading labels, judging information available about products, evaluating quality at different prices, and making selections to fit needs. Homemaking demands skills in carrying on household processes; and homemaking education must provide experience in seeing processes efficiently demonstrated, in studying illustrations of steps in a process, and in repeating a technique under helpful guidance until the skill has been mastered. Homemaking demands creative ability in selecting, arranging, and making a beautiful home, no matter how simple its appointments. Homemaking education, therefore, must include experience in creative activities in preparing and serving meals, planning a wardrobe, arranging a bouquet or a room, making a dress, or being hostess at a party. Homemaking demands scientific knowledge and a

scientific attitude toward home problems. Homemaking education, then, must provide opportunities to analyze problems, to see possible solutions, to collect data bearing on the problem, to try out procedures, and to evaluate results. Homemaking demands a sensitiveness to the feelings and reactions of others and ability to work with others for a common goal. It follows that homemaking education must help individuals gain an understanding of others, insight into reasons for their reactions, and experience in working with others co-operatively. The job of the teacher becomes that of determining when each of these needs should be met and of guiding students in the selection of those experiences needed to attain these different abilities, understandings, attitudes, and skills.

IV. Individual, Group, Home, School, and Community Projects

In a co-operatively planned program of education which meets pupils' needs there will be progression from carrying simple to more complex responsibilities of the home. Understandings will be deepened and broadened, generalizations will become more precise and more meaningful, skills will be more highly developed, more and deeper appreciations will be gained, and choices more wisely made in increasingly complicated situations.

Home and school experiences will supplement each other. After a pupil has learned to make a simple garment under the teacher's guidance, she may want to make another at home. There processes can be repeated, different equipment used, and less guidance may be available. After some analyses of labels, of advertising, and of other guides for buying, the pupil may be given experiences in buying supplies for the school laboratory. The teacher and other pupils may help to judge the results. Following this, the pupil may take over the buying of supplies for the family for a period of time where money available may be greater or less than that of the school, and family customs and habits will need to be considered. After pupils have had experiences in group work in planning and carrying through a social event, they may need individual experiences at school or at home in taking the responsibility for a family good time or a picnic for another group.

One community has reported an interesting combination of individual, group, school, and community projects centering around nutrition. The advanced high-school home economics and biology classes became interested in trying to see what they could do to improve the

nutrition of pupils in the school. As a means of creating interest and teaching a few facts about nutrition, they purchased four rats and cared for them for a week. Two of the rats were put on good diets and two on poor diets. The home-economics teacher and students had been working on nutrition needs with the teachers and pupils of the elementary grades. Each grade was given an opportunity to care for the rats for a week, weighing and measuring them and recording their progress or lack of progress on ladders which had been constructed for the purpose. Each grade group also helped plan and prepared a luncheon which they ate at school. This luncheon met the standards for a good meal about which they had been learning. Pupils' own weights were recorded and watched. Some forty children were found to need supplementary feeding and the home economics students took responsibility for mid-morning and mid-afternoon lunches. Several high-school students planned and carried out projects at home in trying to develop better food habits themselves or to improve the family diet. The community nutrition council had been giving publicity to the need for better nutrition and had sponsored Victory gardens with which elementary and high-school pupils helped. High-school girls carried certain responsibilities for the hot lunch served at school at noon.

V. Evaluation and Re-evaluation

Evaluation of the results of a program carried on by this co-operative problem-solving procedure must be continuous. It must come from pupils, from parents, from teachers, from employers, and from other community members observing the pupils. It forms the basis for planning and replanning. It considers the way activities are performed, the products made, the attitudes shown, the working relationships exhibited, and the ways pupils think and act when new problems arise. When the goals are set by the pupils and the experiences are planned by them, they are in a position to judge their own progress and to seek new experiences when those are needed.

CHAPTER VII

THE LIBRARY IN THE VOCATIONAL SCHOOL

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I. INTRODUCTION

The mere fact that a chapter on libraries is included in this comprehensive yearbook on vocational education is substantial evidence that the vocational-school library is making its influence felt. The long-held concept that the vocational school which teaches manual skills holds little room for book learning, and therefore for libraries, is slowly, but no less positively, going by the board. The advent of professional librarians in vocational schools, the recruiting of better-educated shop teachers, and the influence of the academic subjects have been responsible in part for this change in concept. The fact that vocational libraries are growing up and making their usefulness known is added reason for this. To be sure, the vocational-school library is not developing in precisely the same pattern as the well-established general-school library, for, consciously or unconsciously, the fundamental focus of the former must be on training the student for vocational competence, as well as for good citizenship, worthy use of leisure, etc.

Whenever a librarian attempts to cover the whole field of library work, whether for the purpose of listing practices contributing to vocational competence or for other reasons, the tendency exists to break down the field into four divisions: book selection, cataloging and classification, reference work, and administration. Unfortunately these are librarians' terms, and since this yearbook is addressed primarily to laymen and to professional educators outside the restricted field of library service, it has seemed advisable to use another and perhaps more meaningful grouping: first, getting the material into the library, and, second, getting the material to the readers.

II. Getting the Material Into the Library

1. Book Selection

Unlike the librarian in the general school, the vocational-school librarian has few basic lists of titles from which to draw in ordering books for his own library. Such standbys as the *Standard Catalog for High School Libraries* or the American Library Association's new *Basic Book Collection for High Schools,* the reading lists issued by the National Council of Teachers of English, the current selections in the *Booklist* and in *Wilson Library Bulletin,* and in many other publications—all these sources which almost cloy the librarian with the wealth of good and applicable material they contain, are useful to the vocational librarian for general subjects, but are of little or no value for trade subjects. There are a few basic vocational lists like the recently revised Quoddy list,[1] Miss Scoggin's list,[2] and the New York City Board of Education list.[3] These are supplemented from time to time by special supplements in the *Booklist* and occasional lists in other library periodicals. However, this is hardly enough on which to draw. The conscientious vocational librarian must refer also to the "Weekly List of Selected United States Government Publications," to the introductory section of the *Industrial Arts Index,* even to the unselective *Cumulative Book Index,* and to the book review sections of trade magazines.

There are few vocational-school libraries fortunate enough to have available useful and authoritative lists and current listings for books in all their subjects. The usual procedure in meeting this problem is to engage the ingenuity and resourcefulness, not only of the librarian, but of all the teachers and pupils in the school and of the public librarians in the community. A comprehensive program involving this procedure which has worked successfully in a vocational high school in a large city is presented below.

a. Co-operation with Teachers. A faculty library committee is organized consisting of the library staff and three or four faculty members who are interested in the work of the library and who enjoy

[1] Charles J. Boorkman, "Mechanical and Allied Trades." Quoddy Village, Maine: Quoddy Regional Project, 1941.

[2] Margaret C. Scoggin, "Simple Technical Books." New York: New York Public Library, 1939.

[3] Bureau of Libraries, "Library Books for Vocational High Schools." New York: Board of Education, 1941.

considerable prestige in the school community. This committee requests each department to designate one teacher as the library representative, whose duty it will be to maintain a card index file of departmental book needs and to consult periodically with the librarian on the matter of ordering books. Free-lance recommendations by other teachers also are encouraged.

Once the machinery for listing books has been established, another and more aggressive step is taken. Because the library's book funds are consistently meager, the faculty library committee then advises the department chairmen that the library allotment for books in a given department will not suffice to maintain the collection at its usual high standard, and requests that the department, therefore, earmark some of its own supply and equipment funds for the purchase of library books.

The final step in the book-ordering procedure is the conference between the librarian and the department chairman and/or the departmental representative. The librarian, who has compiled his own list of books needed in each department, compares that list with the departmental list of books wanted. The library allotment for the department is lumped with the departmental contribution for library books. Within this framework of dollars and titles, the conferees discuss briefly which books are to be ordered. The department chairman or representative knows best the instructional needs of his classes and is probably more familiar with the material contained in the technical books under discussion. The librarian keeps a wary eye on tendencies to overbalance the collection in favor of one phase of the subject, inquires on the matter of readability, and considers the possible usefulness of the books to other departments and to students pursuing other courses.

b. Co-operation with Pupils. A school library must satisfy pupil needs, and, of course, the book-selection and book-ordering process just described reflects pupil needs as interpreted by their teachers. However, it is educationally advisable to have direct contact with pupils, if only to give them the feeling that the library is theirs, to be criticized or praised as the occasion warrants. In addition, however, students often make suggestions on the readability and simplicity of vocational books that are not always discernible to either teachers or librarians.

Some vocational librarians make a practice of asking several of the

better students to make a casual survey of the books in their shop subjects and to comment to the librarian on their suitability. Often this is love's labor lost, but more often a pupil's-eye view of the trade collections offers valuable hints to the librarian. In the school whose ordering system we are describing, the librarian keeps a file of titles requested by students which are not in the library.

c. Co-operation with the Public Library. Completing the picture of co-operative book-ordering procedure, we must consider the contribution of the public library. The library under discussion and the nearby public library exchange lists of their holdings in vocational subjects, keeping them up to date with frequent revisions. Colored cards are inserted in the school-library's card catalog bearing the titles of vocational books in the public library so that students have access in the one catalog to the trade collections of both their own and the public library. In this case, the public library's trade collection is primarily intended for use by the vocational-school's students. As a result, it has been found advisable for the public library to purchase relatively few technical books, but many background or semitechnical books, while the school library purchases the more technical books needed for shop instruction.

2. Teachers' Professional Library

A collection of books on educational methodology, vocational guidance, child psychology, and kindred subjects is a worth-while adjunct to any library, but it is a practical necessity for the vocational school in which so many shop teachers have little formal pedagogical training and inadequate teaching experience. This collection will prove particularly useful to new teachers. The first few months of transition from the shop in industry to the shop in school are sometimes painful and often bewildering. Relatively simple books on methods of teaching, on discipline, and on the homeroom period are especially valuable to the new teacher.

The teachers' professional library does not consist of books alone. There should be included educational magazines such as *Industrial Arts and Vocational Education,* and magazines on trade subjects addressed to the teacher, or expert, rather than to the student. Some section of the pamphlet file should be reserved too, for syllabi, courses of study, school circulars, and similar material. One of the best ways to get students to use and appreciate the library, is to convince their teachers of its worth to themselves.

3. Vocational Guidance

The vocational-library's guidance collection begins not with books as do other collections, but with pamphlets. One school has done an excellent job of this, arranging pamphlet boxes around a portion of the library in easily accessible positions. Each box is plainly marked with the name of some occupation, and contains brief, recent, readable booklets and pamphlets describing this occupation. The best single current list of these pamphlets is the *Occupational Index*, but there are many other sources for this type of material. This is the student's first point of approach. He need not be embarrassed by asking the librarian for pamphlets on undertaking and embalming, or on the vocation of male nurse. He can browse through pamphlets he might never dream of requesting. Somewhere along the line his interest will be caught, and he will ask for more information. The librarian may refer him to longer booklets, of which Careers monographs[4] are typical, or to some of the popular vocational series, such as *Picture Fact Books*,[5] Kitson's Careers series,[6] or some of Burr W. Leyson's[7] or John J. Floherty's[8] many books on jobs. Also useful at this time are the analytical entries in Parker,[9] Price and Ticen,[10] and many other vocational bibliographies.

In addition, the library should have ample statistical information on jobs. The *Monthly Labor Review* of the United States Bureau of Labor Statistics, and the *Statistical Abstract* and other publications of the United States Census Bureau, Chamber of Commerce brochures, and State Employment Service releases are indicative of the type of material which will be found useful in analyzing and predicting employment trends.

Magazines on occupations, while not plentiful, should be kept

[4] *Careers*. Chicago: Institute of Research.

[5] Alice V. Keliher (ed.), *Picture Fact Books*. New York: Harper & Bros.

[6] Harry D. Kitson (ed.), *Kitson Careers Series*. New York: Funk & Wagnalls.

[7] Burr W. Leyson, *Aeronautical Occupations for Boys* (and other titles). New York: E. P. Dutton & Co., 1938.

[8] John J. Floherty, *Sons of the Hurricane*. Philadelphia: J. B. Lippincott Co., 1938. (Other titles.)

[9] Willard E. Parker, *Books about Jobs*. Chicago: American Library Association, 1936.

[10] Willodeen Price and Zelma E. Ticen, *Index to Vocations*. New York: H. W. Wilson Co., 1936.

among the periodicals. Suggested titles are *Occupations*,[11] and *Your Future*.[12] In clipping the daily newspaper, it is helpful to mark articles on jobs and job opportunities. The more significant ones can be tacked on the bulletin board along with civil service examination notices. It is advisable, also, to maintain a good basic collection of readable books concerned with the choosing of a job and of books on occupational civics which cover all fields of work.

For those students who intend to continue their studies in institutions of higher learning, the library should arrange to have a collection of college, technical- and trade-school catalogs available for consultation, perhaps in collaboration with the college counselor or teacher assigned to this phase of guidance work.

4. Trade Magazines

The selection of trade magazines may be made with the help of Ulrich's *Periodicals Directory,* but the advice of the departmental representative should be earnestly solicited, just as in the case of the selection of books. Trade teachers frequently know more about the magazines in their subject than about books. In addition, shop teachers often are willing to give their magazine issues to the library as soon as they are through reading them. It is advisable in this respect to make a definite arrangement with teachers contributing magazines so that the periodicals will be given to the library regularly and not too long after the date of issue. Not only may magazines be solicited from members of the school faculty but it is also possible to obtain trade magazines from certain firms which distribute them without charge to libraries. *Industrial Equipment News* issued by the Thomas Publishing Co., New York, is one of the more important journals obtainable in this way.

Valuable magazines and those indexed in *Industrial Arts Index* and *Readers' Guide to Periodical Literature* should be bound or tied up and filed for further reference, but other magazines which have apparently outlived their usefulness in the library may be distributed to shops as source material for student scrapbooks, etc. Heavily used magazines such as *Popular Mechanics* or *Popular Science,* or magazines which students are required to purchase for their shopwork, may be sold in the library if the department so desires.

[11] *Occupations*. New York: National Vocational Guidance Association.

[12] *Your Future*. New York: American Education Press.

One device to expedite the circulation of magazines is used by the Food Trades High School in New York City, which circulates new issues of magazines to appropriate teachers for a quick "preview" before placing the issues on the library shelves. Teachers then recommend specific articles to their students, thus insuring a much more intensive use of the magazines than otherwise might be expected.

5. Trade Catalogs

Another unique characteristic of the vocational-school library is the collection of trade catalogs. Usually in each industry or trade there are several large firms which publish catalogs of their products. In their comprehensiveness, and in the copiousness of their illustrations, these catalogs may be considered the encyclopedias of the vocational school. They are important aids to shop instruction and may be referred to by instructors and students more often than the texts and journals for the trade.

6. Trade Union Material

If we take a realistic approach to vocational-library problems, some provision must be made for the acquisition of trade-union information. Since the passage of the Wagner Act and the consequent growth of the union movement in this country, there are few fields of endeavor in which some union is not operating. If the vocational school is preparing its students for vocational competence, it must take cognizance of the fact that the graduating student may find it necessary to join a union in order to secure employment. In any case, the student will be far better prepared to enter his trade if he understands the union situation.

A small number of books on the trade-union movement will supplement the library's economics section, as well as provide the basis for the union collection. The American Library Association has recently issued an excellent pamphlet[13] on the organization of a trade-union library. In addition, one vocational-school library in the East subscribes to the publications of the unions in the trades which it teaches. Most unions publish a monthly or weekly periodical which is useful for trade information as well as for strictly union news. Union directories or handbooks often contain regulations governing

[13] Orlie Pell and Mildred T. Stibitz, "Suggestions for a Trade Union Library." Chicago: American Library Association, 1941.

membership in the union and specific instructions on how to join the union. Both the American Federation of Labor and the Congress of Industrial Organizations issue numerous pamphlets from national headquarters, and, in larger cities, the central union council may publish pamphlets useful in vocational schools.

III. Getting the Material to the Readers

1. Publicity

Many more librarians can boast of successful practices under the heading of "Getting the material into the library" than under the present heading. Too many of us are content to organize excellent vocational libraries without making any considerable effort to effect a meeting of students and books. Perhaps this is based on Ralph Waldo Emerson's theory that "if a man . . . . build a better mouse trap than his neighbor, though he build his house in the woods, the world will make a beaten path to his door." Vocational libraries, having broken away from many of the traditional library practices of the general school because of the necessity of adjusting to a different type of school, should continue their deviation by attempting to bring the library to the student rather than the reverse.

There has been considerable criticism of late, at least in some parts of the country, to the effect that librarians are not worth their salt. It has been implied that their work can be done by any intelligent clerk. Most librarians, knowing well the long hours and the careful planning that have gone into the making of the library, deeply resent this implication. On the other hand, administrators and public servants seldom take librarians to task out of sheer malice. If librarians are doing a good job, many administrators do not know about it. Somewhere along here, there should be a meeting of the minds. If administrators and others will not take the trouble to investigate the value of libraries under their supervision, then librarians and their friends must prove their worth to the satisfaction of the entire educational community. This is the keystone of their future progress.

The vocational-school library should be the center of school activities, not only in the sense that all subject teaching should draw upon the library for much of its material, but also in the sense that the vocational student should have some central place to turn to for information about every type of extra-curriculum activity of the school. A bulletin board for student affairs and a few books on clubs,

hobbies, parliamentary procedure, and the like, will go far toward making the student like the library and appreciate its usefulness in matters other than those pertaining directly to school work. In New York City, the Bronx Vocational High School displays its shop projects in the library and also holds a semiannual hobby show to stimulate interest in books. The Metropolitan Vocational High School allots space in the library to student organizations where they can conduct meetings after school hours. At East New York Vocational High School, the library sponsors brief talks over the public address system commemorating important events such as the Bill of Rights and Armistice Day. Other school libraries arrange for quiz programs between students representing different shops. Another method of publicizing the library, which is frequently forgotten, is the extra-library activities of the librarian himself, for much of the library's prestige among both pupils and teachers depends on him. The librarian who appears at many school functions, who is faculty adviser of a club or a member of the admissions committee of the school honor society, is unconsciously advertising the library.

The usual "list of new books" received by the library is an adequate publicity device, but much more can be accomplished by varying the approach. Lists of books designed specifically for new teachers can be issued. Attractive lists can be based on some new best seller or on some book that has been done as a motion picture. The librarian should not hesitate to prepare a list of library services, for many teachers and most pupils are unfamiliar with all that the library can do for them. A suggestive type of book list is the colored and illustrated bookmark which the Milwaukee Vocational School issues. These are attractive as well as functional, so that students will keep and use them. One librarian uses the syndicated "Out Our Way" cartoon, which often features some humorous scene in a factory, to head a list of trade books, the cartoon changing with the lists for different trades.

Publicity is important to any library, general or vocational, but by reason of the library's newness in the vocational school, the vocational librarian has an even greater responsibility for making the presence of the library felt. The listing of publicity schemes is far less important, however, than the consciousness on the part of the vocational librarian that publicity is a perpetual order of business, to be carried out persistently from as many approaches as come to

mind. It is one of the basic factors on which the rest of the library edifice is built.

2. Teaching the Use of the Library

The value of teaching the use of books and libraries to students is unquestioned, but some of the techniques currently in use make the teaching of library lessons, psychologically, if not educationally, valueless. To achieve maximum effect, lessons in library use should grow out of a classroom or shop situation and should be a response to some felt need. The practice of sending classes to the library without preliminary motivation and preparation and without follow-up in class has little value and is better replaced by book talks which can stand by themselves.

In the vocational school, there are certain things which should be kept in mind in connection with library lessons. First, it is wise to approximate the shop situation by the use of job sheets covering units of instruction. In addition, it is possible through the use of these job sheets to provide easy individual instruction for students who come into the library alone. It is usually advisable, too, to give students some mimeographed or written material which they can keep in their notebooks for future reference. Further, due to the relatively greater rate of turnover in vocational schools, it seems advisable to give short, simple lessons in the early terms, saving the more advanced material for those who remain through the later semesters.

3. Reading Guidance

The decreased amount of academic work in the vocational schools places an increased responsibility on the library for the cultural development of the students. While vocational training and the job are of primary importance, the cultural aspects of a student's education cannot be neglected. The worker of tomorrow is also tomorrow's citizen and parent. Vocational-school librarians, therefore, have the task of providing leisure reading as well as vocational reading. Annotated lists like *By Way of Introduction,* published by the American Library Association, and the several booklets on leisure reading sponsored by the National Council of Teachers of English should be publicized so that students will use them. Scrap books of new book jackets are kept in many libraries; other libraries issue short lists of "good books." These and other methods are necessary to guide the

young adolescent through the great mass of available literature which so nearly overwhelms him.

4. Shop Libraries

One of the most important means of getting books to the readers is through the establishment of shop libraries, a characteristically vocational institution. In our earlier description of a plan of book ordering in co-operation with shop departments, both library and departmental funds were used for the purchase of books. Once the books have been received and prepared for use, the librarian and the departmental representative confer on the new books to decide which will be of the most use in the shop, and which in the library. There are, of course, a few basic principles governing the organization of shop libraries in the school in which the above plan is in operation. First, the shop library is small, consisting of not more than fifty books, all of which relate directly to shop work and which are of negligible value to other departments in the school. Second, shop library books do not circulate for home use. If this kind of use is desired, duplicate copies are placed in the school library which has the facilities to render this service.

5. Reference Work

Reference work is a means of getting books or, more particularly, parts of books to readers. It differs little in vocational schools except that much of the work is concerned with trade subjects. Many shop subjects have a language all their own, so that the librarian, who might be able to help on a question posed in everyday English, is puzzled by technical terms. Even when the librarian can understand the question, there are many occasions when his ignorance of the subject matter renders his help of little avail. In some schools the practice of writing out reference questions and leaving them with the librarian has been put into effect. This permits the latter to consult with trade teachers in the effort to find an adequate answer but, unfortunately, cannot be used when the student needs an immediate reply. A few librarians keep honor students on the library squad and consult with them on questions involving an intimate knowledge of the trade. In some cities librarians are permitted to attend shop lectures periodically in order to learn something about the trades. If this practice is followed regularly, in the course of a few years the

librarian's background should prove adequate for almost all reference situations.

6. Technical Processes

The technical processes by which books are prepared for use—accessioning, classification, cataloging, and mechanical preparation—are hardly different in the vocational school from those in the general school. Some surgery occasionally must be performed on the Dewey decimal system in order to bring into close proximity several subjects which, though theoretically in different fields, are sometimes taught as closely related subjects. Lists like Sears' *List of Subject Headings for Small Libraries* are often found wanting in vocational subjects, and other sources such as *Industrial Arts Index* must be consulted for headings. Catalog cards are kept simple since too much information is apt to confuse students. The practice of pasting book jacket blurbs on the end papers of books is especially recommended for vocational schools.

7. National Defense

No section on successful means of getting books to readers can be concluded without some reference to the problem of national defense training. In most localities, the vocational schools have been used as defense-training centers. Until very recently, however, little effort was made to supply books or library facilities to the trainees. *Why Industrial Training Needs Books,* issued jointly by the American Library Association and the United States Office of Education, and Russell Munn's "Responsibility of the School Library in Industrial Training"[14] have had a beneficial effect in awakening defense-training administrators to the fact that if books and librarians are useful in the regular vocational high school, they are also useful in the training classes.

In New York City the public library serviced those vocational schools offering defense training on one day each week until the time came when defense centers were permitted to buy books out of their own funds. Libraries in these schools, however, are still not available to the trainees. The defense-training program is essentially an emergency program, and as such may well develop its bibliographical aids around the shop rather than the school library, but regular

[14] American Library Association *Bulletin,* March, 1941.

allotments for books should be made if the needs of this group of readers is to be met adequately.

8. Planning

No one librarian can or should undertake all of the practices listed above at one time. These comprise a suggestive, but incomplete, catalog. Many of the practices may not be applicable to certain schools, and no doubt there are many other devices which have been worked out to meet unique situations in particular schools. The important thing is to plan activities. An alert librarian will have a list of large-scale projects, which he hopes to work out in the next five or six years. This list can be modified as circumstances change, but one of these projects, perhaps the preparation of book lists or the establishment of a reading guidance program, should be initiated each term and seen through.

As part of the planning for the future, it is necessary to work closely with a faculty library committee, if there is one, in an effort to foresee the needs of the school. It is also advisable to visit other libraries to discuss common problems. An idea here, a new method there, and soon another contribution to the vocational competence of the students has been developed. This is and should be an endless process.

IV. Factors That Tend to Diminish Library Efficiency in Vocational Schools

We have presented a picture of vocational-school libraries which is all sweetness and light. This has been done deliberately to indicate to educators, administrators, and others what an efficient library can do under optimum conditions to promote vocational competence. Unfortunately, the potentialities of the vocational-school library are in most cases largely unrealized because optimum conditions rarely prevail. The factors that tend to diminish library efficiency in vocational schools are many, but they may be grouped for convenience into four main categories.

1. Unsympathetic Administration

By an unsympathetic administration we do not mean a group of school officials who have no use at all for the library but rather those who accept the library but do not understand its proper function in a vocational school and, therefore, fail to appreciate not only the needs

of the library but its values as well. One of the revealing signs of the unsympathetic administrator is his characteristic view of the librarian as a hybrid clerk-teacher, with the traits of the former predominating.

Typical abuses generated by this point of view are the use of the library as a study room, a classroom, a checkroom, a detention room, a programming room, etc. The least common denominator of all these abuses is *room,* and apparently it is not far wrong to assume that the unsympathetic administrator regards the library as a large, pleasant, well-lighted room suitable for any occasion or function which requires more space than the ordinary classroom.

Our, by now, much-maligned, unsympathetic administrator reflects his attitude toward the library in his attitude toward the librarian. It is not surprising, therefore, to find librarians assigned to placement work, extra-library clerical work, teaching, supervision of textbooks, care of homeroom sections, detention duty, etc. After all, isn't it true that the librarian has little to do other than read books all day and to paste a pocket in or to stamp a book out for circulation occasionally?

The picture presented in the preceding paragraphs partakes considerably of the principle of *reductio ad absurdum.* There are, we hope, very few administrators so unenlightened as the prototype we have just sketched. On the other hand, none of the abuses just listed are imaginative fancies. All of them actually occurred, but not all in the same vocational school. Further, and more important, there are many gradations of the unsympathetic administrator, the most common of which is the principal or assistant who continually allocates an insufficient amount of money for the purchase of library books and supplies, who fails to obtain adequate personnel for staffing the library properly, who never provides for the physical expansion of the library plant even when this is desperately needed, and who by neglect rather than by design systematically excludes the librarian from participation in faculty and departmental conferences which would contribute greatly to the librarian's understanding of the needs of the school.

2. Lack of Initiative on the Part of Librarians

It should be said, in all fairness, that vocational librarians as a group are as much to blame as are administrators for the lag in the efficiency of many libraries. They seldom publicize either the library's services or the library's needs in an effective manner. Most vocational-library publicity is related to students' needs and reaches students only. There

is a large and fertile field for publicity addressed to administrators and teachers and concerned with what the library has done and can do to increase the efficiency of the vocational school.

Another of the shortcomings of the vocational librarian is his preoccupation with routine tasks, with the daily job of keeping the library running. This is not intended to demean the importance of library routine which is essential to the functioning of the library, but unless some time is given over to a consideration of the current needs of the vocational school, its pupils, and its teachers, the library may find itself functioning in accord with the needs of a school that existed ten years ago and which has changed considerably in the interim. Librarians should spend a little time each day off in a corner by themselves, assessing current practices, planning new ideas, modifying old ones—all to the end that the library shall contribute more effectively to vocational competence.

Finally, in this category should be placed the vocational librarian's lack of understanding of the needs of teachers and of pupils in trade subjects. This is primarily due to unfamiliarity with instructional methods and with the content of shop subjects. It can be remedied by regular visits to shop classes and by frequent discussions of shop needs with both teachers and pupils. The library cannot function properly in a vacuum. Its contribution to good shop instruction will vary directly with its integration with the vocational departments.

3. Difficulty in Reaching Students

There are some factors which tend to diminish the efficiency of the vocational-school library that cannot be ascribed either to the administrator or to the librarian. Immutable conditions such as the lack of study periods and the longer school day in the vocational schools make it difficult for the vocational library to reach the pupils.

In addition, vocational students frequently take the attitude that the important part of their education consists of their shop work, academic work being tolerated only as a concession to school authorities. This attitude, while by no means universal, colors the thinking of many vocational-school youngsters who classify the library as a necessary evil. The fact that many vocational teachers do not realize that the library can help in instructional work and, therefore, make no plans involving student use of the library reinforces this erroneous view of the library. The vocational-school library need not succumb to the

manifestations of this concept. Quite the contrary, unless it counteracts this feeling the library will become the exclusive province of the relatively few book-minded pupils and will fail to reach the great mass of shop-minded students who probably are in greater need of the librarian's stimulation and help than the youngsters who would find their way to the library no matter how carefully concealed it might be.

4. Lack of Catalog of Established Practices

Vocational schools differ from each other both in the subjects they teach and in the principles and practices on which they base their teaching. The Milwaukee Vocational School, for example, places its greatest emphasis on adult education, while the dominating motif at Metropolitan Vocational High School is guidance and adjustment for individual needs. Other distinctive differences mark the underlying principles of other vocational schools. The librarian who must serve not some abstract and unrelated thesis of library service but the concrete, operating policy of his particular school often finds himself with nothing to rely upon but his own initiative and resourcefulness. His own experiences in adapting the school library and its services to individual guidance, let us say, may be negligible. His first reaction, probably, would be to turn to the professional literature of library service for ideas and suggestions. Unfortunately, while considerable has been written on almost all phases of school-library work, there is an extreme paucity of material on vocational-school libraries. This can be accounted for in part by the relative newness of the field, but only in part for, recency notwithstanding, there has been ample time for much more discussion than is to be found in the few articles which have appeared in library publications.

On the basis of the preceding analysis, it would not be too difficult a task to draw up a rather comprehensive program designed to remedy the ills of the vocational school library. Perhaps it is better stated in very simple terms. The vocational school is a complex mechanism. It proves its worth to society by the efficiency with which it operates in terms of cost and production. Factors that tend to diminish the efficiency of the mechanism or a part of the mechanism, must be conscientiously weeded out. Particularly at this time, in this great world crisis, society demands optimum efficiency. This is a challenge both to vocational-school administrators and to vocational-school librarians.

CHAPTER VIII

SELECTING AND TRAINING TEACHERS AND SUPERVISORS IN VOCATIONAL EDUCATION

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I. INTRODUCTION

The success of any educational program is predicated on the available number of properly qualified and effectively trained teachers. This concept is especially applicable to the field of vocational education where skill and technical knowledge are required in addition to professional education. No school can rise above the level of ability and professional outlook of the teaching staff and the type of leadership provided by the principal, supervisor, or director. The task of vocational teacher training has many ramifications, and, furthermore, is not limited to the offering of courses on a university campus or of extension courses under college supervision to all applicants who solicit registration.

The vocational teacher has a great influence on students and, therefore, he or she has a big responsibility in the development of character in general and of proper social attitudes in particular. This means that the vocational teachers should have a good basic training in essential subject matter and techniques necessary to meet the obligations of their positions. It is highly improbable that short, composite, intensive training courses will provide adequate professional preparation. This statement naturally poses the question of what should be considered sufficient and adequate training for vocational teachers.

It is not possible to suggest a final answer to such a question but it is possible to arrive at an intelligent solution of the problem by making an analysis of what may be considered the desirable minimum amount of professional training. The following discussion recognizes

certain differences in the training of industrial teachers and that of teachers of home economics and agriculture. These two groups of teacher candidates are required to complete a four-year college course that provides ample opportunity to give them subject-matter courses with additional training in the acquisition of minimum skills. The industrial teacher, on the other hand, is a mature person who has spent from five to ten years in industry. Such a teacher usually has family responsibilities and cannot resign a good job to attend school for one or two years in preparation for a teaching position. He is willing and able, however, to spend a reasonable amount of time in proper preparation for entrance into the teaching profession.

II. Training for Industrial Education

A comprehensive teacher-training program comprises three distinct but integrated steps, namely, *selection, training,* and *follow-up.* Each step is indispensable and must be carefully organized and administered if satisfactory results are to be obtained. The three steps must be discussed independently in order that the essential phases of each one may be indicated.

1. Selection

The selection of properly qualified candidates is the first and probably the most important and difficult phase of the program. If this part of the job is done in a haphazard fashion, it will practically nullify the efforts in the succeeding steps. It should be considered a privilege rather than a right to be a teacher, and, consequently, a highly selective procedure should be utilized. An adequate sifting process should eliminate the candidates who are restricted in mechanical skill, mentally limited, physically defective, temperamentally unfit, socially inadequate, or ethically undesirable as teachers.

The question that immediately presents itself is, "What technique shall be used to detect these various deficiencies?" It is a good policy to use a number of the known devices to evaluate personal characteristics. No one device and probably no one deficiency should be sufficient to exclude a candidate. It is the composite picture that is desired in order that the best people may be selected. It is reasonable to acknowledge the inadequacy of certain subjective measures in the evaluation of the qualities enumerated. However, the judgments of experienced interviewers are very dependable when supplemented by

certain objective measures, such as written and performance trade-tests plus school transcripts.

The extent of the examination procedure for admission to teacher-training courses is more or less dependent on or relative to the number of persons seeking admission. If hundreds of persons are involved, the examination and selection must be rather formalized.

In all cases the applicants should be called upon to submit a complete personal history on suitable forms designed for the purpose. This record should include the applicant's experience as a journeyman mechanic and supervisor, the way in which the trade was acquired—whether by an organized apprenticeship, the pickup method, or by attending trade school—the total years of experience, and the range of experience within the trade. The practical experience should be verified by letters from the various employers and the education should be verified by transcripts of school records. These records should indicate the length of schooling, courses completed and grades granted.

The foregoing records will form the basis of a satisfactory personal interview at which time the applicant should be rated on personal characteristics. Personality and trade experience are on a par in importance and, therefore, should be the basis of the final selection.

If the applicant's paper record and personality ratings are satisfactory, they should be followed by written and performance trade-tests. A written test is not satisfactory in itself. The candidate may be able to write well but he may be unable to perform skilfully the operations of the trade. The continuous use of standardized trade-tests is questionable as they soon become common property, and, furthermore, the trade practices vary in different parts of the country.

2. Course of Instruction

An appropriate training course should be made available to the selected candidate. The content and length of the professional training courses are dependent on two points; first, the fundamental knowledge and skill essential for a teacher of industrial subjects; second, the supplemental information that is desirable to the complete understanding of the problems involved in teaching industrial subjects.

The persons responsible for industrial teacher-training courses throughout the country have made available, consciously or unconsciously, courses that take into consideration the two points indicated. They may not have classified the subjects as fundamental and sup-

plemental; nevertheless, the titles of courses offered indicate that an attempt has been made in that direction. The following list is a digest of the numerous type courses given in various institutions responsible for vocational teacher training. Each of the twelve groups represents a variety of courses that may be classified under the following headings: (1) educational history courses; (2) courses in trade analysis, job analysis, curriculum making, course-of-study planning; (3) psychology courses; (4) introductory courses to education; (5) methods courses (general and special); (6) observation and practice teaching; (7) class organization and management courses; (8) courses in vocational guidance; (9) administration and supervision courses; (10) special problem courses; (11) background courses in sociology and economics; (12) miscellaneous courses.

There is a considerable range of subjects involved in the above enumeration, all of which are considered essential by some of the industrial teacher-trainers. If this list represents the fundamental and supplementary courses that should constitute the curriculum for properly training industrial teachers, it is clearly evident that considerable time must be devoted to the task. Immediately, the question presents itself as to the number of clock hours or semester hours of professional training that should be required for complete certification.

The present practice throughout the country ranges between 120 and 480 clock hours. It seems reasonable to believe that 120 hours is too limited for the completion of a satisfactory course of training, and, on the other hand, there is no justification for stating that 480 hours should be the maximum period. The best criterion to use in this matter is the length of time that is required to train a teacher for whom no excuses need be made and who is able to take his place in the ranks of the teaching profession, prepared to meet the difficulties encountered and be able to discuss intelligently with co-workers, in the language of the profession, the problems of the school world.

It may be well to suggest a tentative curriculum that would fulfill the minimum expectations in industrial teacher training. The proposed course titles are selected per se from the list already presented or implied by the general titles given. The sequence in which these courses are presented is a most desirable order for their completion. There are, however, many factors that may modify an ideal plan.

3. Fundamental Courses

The prospective teacher should learn something about the vocational educational movement and, therefore, should be introduced to this field of work by a course in "History, Principles, and Problems of Vocational Education," through which he should learn what it is, why it is, and how it is being developed. It should be remembered that the prospective industrial teachers are adults with mature experiences and therefore they can readily understand the content of such a course. A well-planned course of this type may require thirty clock-hours of class time.

The one course that serves to bridge the gap between industry and the vocational school is the course in "Trade Analysis and Course Organization." It serves as a very convenient and effective medium by which the tradesman may be introduced to the techniques of training others. Such a course requires the student to "think through" and analyze his entire trade experience and to detect all the teachable content in his trade.

The exhaustive analysis should be followed by the "setting-up" of numerous practical trade jobs that would require for their completion all the content discovered by the analysis. This course, if properly taught, will probably require sixty clock hours of class activity supplemented by many hours of outside work. The prospective teacher, upon the completion of this course, should have a well-planned program of instruction that may be used immediately upon entrance to a teaching position.

The next logical course would be one that deals with the nature of the persons to be taught, namely a course in psychology. It should consist of applied psychology with emphasis on the behavior of human beings rather than a lengthy discussion of the biological aspects of psychology. These mature students have made use of psychology in their personal activities and have observed its workings in daily life, but they have not made a formal study of the subject. This course should enable them to understand better "why people act that way" and therefore help them to cope with school situations as they arise. It may be desirable to utilize more than thirty hours for this subject but a satisfactory course may be given through timely assignments and efficient teaching within a thirty-hour period.

The three courses just outlined may be considered as fundamental and may be given satisfactorily as pre-employment courses. The suc-

ceeding fundamental courses should be given concurrently with teaching experience. They are: (1) "Methods of Teaching Industrial Subjects," (2) "Shop Organization and Management," (3) "Practice Teaching and Observation."

It is not likely that a discussion of teaching methods and class management means very much to a student unless he or she has ample opportunity to practice the methods during the time of taking the courses. These three courses form the real core of a teacher-training curriculum.

The course in methods should consist of the well-known techniques of teaching applied specifically to the field of vocational education. The instructor should be a successful teacher of industrial subjects who is able to correlate the work of this course with the preceding courses of psychology and trade analysis. It is necessary to utilize at least sixty clocks hours for this work, if reasonably satisfactory results are to be expected.

The course in shop and class organization and management should be offered concurrently with the methods course, if possible. The content of this course should involve all the routine tasks of a teacher's job, exclusive of methods of teaching. The topics for discussion and the assignments given should revolve around such things as shop layout, purchase and installation of machines and equipment, use of record forms and record keeping, discipline and other managerial phases of the teacher's work. It is possible to consume sixty clock hours in this work and then not exhaust the possible content of a comprehensive course.

The pedagogical equipment possessed by the prospective teacher at this stage in the teacher-training program should now be utilized. A course in supervised practice teaching and observation should now be offered. Such a course should consist of actual practice in a vocational school under proper supervision plus individual conferences on the work. In many cases the persons in training will have been appointed to teaching positions by the time they reach this point in their training. It is important, however, that they should be observed by the critic teacher or supervisor and rated on their performance. Credit should not be granted arbitrarily for practice teaching until satisfactory performance has been demonstrated. It is a mistake to assume that a teacher knows how to teach and needs no further supervision because he has taught for a term or a year.

4. Supplementary Courses

The courses selected in the preceding paragraphs total three hundred clock hours and may be considered as fundamental to the proper training of industrial teachers. There are certain supplemental courses that may well be added to the fundamental courses to insure that the teachers can better cope with their duties and responsibilities. These supplemental courses might include: (1) "vocational guidance," (2) "labor problems," (3) "theory and teaching of industrial arts," (4) "blackboard sketching," (5) "visual aids," etc.

The suggested fundamental courses plus the supplemental courses total approximately 390 clock hours. The program of preparation is still not complete. Almost invariably the candidate is in need of additional training to compensate for lack of past education. It is therefore necessary to offer certain electives to give each individual an opportunity to select subjects that will satisfy his personal needs. The elective list should consist of such courses as: written English, oral English, science, drawing, mathematics, etc.

It is evident from the foregoing discussion that approximately 400 to 500 clock hours will be required to cover the desirable subject matter for the training of industrial teachers. The time and manner in which the courses are completed will vary in different areas and institutions. In some cases the work may be completed on the campus of local colleges or universities during the academic year; in other cases, during summer sessions; while in certain situations, itinerant teacher-trainers must be employed to give extension courses.

The ultimate results obtained from a well-planned curriculum of functioning content depend on how the material is used. It is not sufficient to permit students to listen to well-prepared lectures without reaching the "doing stage." Assignments should be given to detect whether or not the principles and methods presented are sufficiently understood that they may be applied to concrete situations. The completed assignments should be thoroughly reviewed by the instructor, constructively criticized, carefully rated and returned to the student. Students sometimes get the idea that if they attend class and "listen in" they are entitled to the coveted credit. This state of mind is usually brought about by the failure of instructors to make assignments that provoke thought and activity.

III. Teacher Training in the Field of Agriculture

This field of teacher training has functioned for a great many years with a high degree of success. But, like other forms of teacher development, it needs further change and refinement. Agricultural teacher training is somewhat analagous to the training of home-economics and industrial-arts teachers. In each case the graduates of high schools are accepted without prerequisite work experience. The skills needed by these groups are acquired in practicum courses that form a part of their professional training.

It is quite difficult to include in a four-year curriculum all the desirable knowledge available and consequently it is necessary to plan the training program judiciously.

Leaders in the field of agricultural education are generally agreed on the following proposals for improving the selection and training of teachers of this subject.

1. There is need for a better selection of candidates for admission to the teacher-training curriculum. Characteristics such as ability to get along with people, farm experience, and courses completed in agriculture on the secondary-school level are important considerations.
2. There is need for better selection of technical materials to attain the desired goals of the curriculum.
3. The sequence and integration of the technical courses should be thoroughly restudied.
4. The practice teaching is in need of improved direction, including a longer and enriched experience. A teacher apprenticeship is anticipated in some places that may result in the extension of the curriculum to five years.
5. A need for the development of greater technical skill appears to be evident—skills in planting, propagating, harvesting, operating, adjusting and repairing agricultural machinery. This skill training might be substituted for some courses or might be made a summer requirement of work experience under direction and supervision.
6. An itinerant supervision service would be most helpful, if made available to the beginning teachers.
7. Provisions should be made for short, intensive professional courses of a "refresher" type for persons who may want to return to teaching after a lapse of years.
8. Teacher-training institutions in this field should provide in-service courses in the development of instructional material and in the study of various kinds of teaching aids.

IV. Teacher Training in the Field of Home Economics

Training courses for teachers in the field of home economics were established in certain colleges and universities before the enactment of the Smith-Hughes Law in 1917.

While distinct progress has been made under the provisions of this law, there appears to be a need for some change of emphasis and for certain adjustments in the present program. The following proposed suggestions have been offered by competent leaders who are conversant with the present needs of teacher training in this field.

1. The method of selecting prospective teachers should be changed to allow for consideration of personality factors and qualities of leadership.
2. There should be greater flexibility in curriculum assignments to take account of individual student needs.
3. The teachers in training need a closer integration of professional courses and the problems with which they will be confronted after graduation. A semester of employment during the third year, apart from the college, would probably bring about a co-ordination of these experiences and the knowledge acquired in regular courses.
4. The number of courses required should be reduced to permit increased emphasis upon the essentials of the curriculum.
5. Family needs and problems should be studied with reference to the economic and sociologic conditions under which the people of a given status live.
6. Mathematics of the orthodox kind might well be eliminated from the curriculums where it remains a required subject. The necessary figuring needed in cooking, sewing, etc., can be taught as an integral part of each project.
7. Greater emphasis should be placed upon practical experience in home management. This means more participation by students in the management of real rather than the hypothetical homes. The students might be required to serve a full-time apprenticeship of a month or more in each of a series of homes on different social levels. This internship would go far toward shifting the emphasis in teacher training from the theoretical to the practical basis.
8. More realistic experience in guiding adolescents in actual school and community activities is needed and new and better ways to provide this experience during the period of teacher training. This improvement might be accomplished by more off-campus teaching centers, with adequate guidance and supervision to insure satisfactory results. A period of service under a guidance counselor or a high-school dean of girls would provide the actual experience desired.

9. The courses in chemistry, following a basic course in inorganic chemistry, could be revised to advantage. Part of the chemistry could be omitted and better functioning content could be substituted. The development of complicated formulas might well be subordinated to factual knowledge pertaining to dehydrated and frozen foods, manufacture of synthetic textiles, fire extinguishers, air conditioning, production of steel and alloys, soaps, cosmetics, milk testing, water purification, and other varied and numerous applications of chemistry in daily life.
10. Greater emphasis should be placed upon the acquisition of homemaking skills which are basic to satisfactory homemaking and family solidarity. In many rural areas and in types of urban communities, especially in times of stress, there is still much production in the home. The teacher of homemaking must possess these homemaking skills, if her teaching is to be respected and effective.
11. In the science courses consideration should be given to the applied science underlying the care of such things as electric appliances, pneumatic devices, illumination, and operation of heating systems, radio, engines, pumps, and materials of construction. It is important also that the courses in art develop appreciation of art as involved in clothing, carpet, china, wall paper, dishes, draperies, linens, etc., rather than skill in drawing and painting. Much of the instruction in science and in art makes little or no application of the learning to everyday living, *i.e.*, to the purchase and use of necessities and luxuries.
12. The professional preparation for teaching should begin not later than the Sophomore year. An orientation course of observation teaching should be established under a carefully developed plan. This course should place the students in contact with real teaching situations in order that they may better appreciate the courses in methods of teaching, principles of education, educational psychology, and classroom management that will follow in their later professional training.

The foregoing suggestions are predicated on the assumption that the teacher trainers are skilful, alert, receptive to change, eager to make experiments, willing to accept new techniques, and to make adjustments to the changing times.

V. Professional Improvement

A general consensus exists among educators that no teacher, vocational or otherwise, however qualified by native ability, training, and experience, can render satisfactory service indefinitely without continued efforts at self-improvement.

The majority of teachers interpret professional improvement to mean the completion of educational courses offered by colleges or universities. That point of view tends to narrow the scope of things a teacher may do to improve his teaching ability. Professional improvement for teachers may include all the activities that improve their thinking, increase their factual knowledge, perfect their skill and otherwise enable them to render better educational service to their schools and communities. Therefore, the teachers, have considerable choice in the method of meeting their professional needs. They may enrol for university courses during the regular or summer sessions; secure purposeful summer employment; travel to interesting places; observe other schools; visit commercial and industrial organizations; engage in research; and participate in other activities that contribute to personal improvement.

The directors and supervisors of vocational education should be responsible for the professional improvement of teachers under their jurisdiction. Different teachers need different types of in-service training because of their backgrounds, and the superior officer should assist the members of his staff in the selection of appropriate activities for personal advancement.

VI. Follow-up of Teacher Training

No teacher-training program, regardless of its adequacy and efficiency, can guarantee teaching success. The professional courses make available to prospective teachers knowledge and tools necessary to the development of teaching skills, but the manner in which the beginning teacher utilizes these teaching devices is not completely within the control and guidance of the teacher-training institution.

Whenever possible, the teacher-training institution should request a report from the employer of their recent graduates. A form might be devised for this purpose on which the supervisor might check the performance of the new teacher. This form should provide for ratings of such things as student reaction, teaching techniques, class management, co-operation, ability to get along with people, and ambition to improve. The value of such a report is twofold. It will form the basis of a conference if it is practical to make contact with the graduate and it will also indicate deficiencies in the teacher-training curriculum that may require consideration.

The follow-up and supervision of the initial training is the responsibility of the teacher's immediate supervisor. It is of prime importance that teachers be properly inducted into the profession and carefully guided and supervised during the early stages of their teaching career. If this phase of the training is tactfully and efficiently handled, the result is a teacher with a proper professional attitude and a keen sense of responsibility for the students under his direction. On the other hand, if the new teacher is introduced to his new duties in a careless or indefinite manner, the result is confusion, dissatisfaction, and a lack of pride in his new profession. It is the earnest desire of all teacher-training agencies that principals, supervisors, and other administrators will provide adequate supervision and kindly guidance on behalf of all new teachers under their jurisdiction.

VII. Training Supervisors and Directors

A countrywide need exists for well-designed training courses for supervisors and directors of vocational education. When vacancies occur, it is difficult to find people with appropriate practical experience and proper educational background to fill the positions. This situation is due to blind confidence that educational courses on the graduate level may be relied upon to supply this need.

It is very evident that many of the usual courses offered to vocational students on the graduate level are neither appropriate nor sufficient to develop supervisory leadership in this field. The development of leaders must be based on a highly selective process that will insure a relatively high percentage of successes. For prospective supervisors in vocational education, trainees should be chosen from the ranks of vocational teachers who have completed undergraduate courses in economics, tests and measurements, sociology, and vocational education.

The graduate training for such a group should consist of a number of specific courses in addition to special work assignments.

The selection of graduate courses should include such offerings as techniques of making occupational and community surveys, methods of supervision, personnel administration, public relations, business organization and management, building supervision and control, applied economics, and sociology. As far as possible these courses should be based on case studies and should involve a maximum of problem-solving assignments.

The work assignments might consist of full- or part-time service as assistants in the offices of supervisors or directors. This service might properly be considered equivalent in credit value to a half-course. Such experience would be most valuable to the student, since it would be in the nature of an apprenticeship in supervision.

VIII. Industrial Teacher Training at the Graduate Level

A study of industrial teacher training was made recently by a committee composed of members of the National Association of Industrial Teacher Trainers. The report of the committee was published by the American Vocational Association. This study was made possible by the co-operation of teacher trainers in thirty-two institutions throughout the United States. The institutions that participated in the project include twenty universities, seven colleges, three teachers' colleges, one institute, and one polytechnic institute. Although chiefly concerned with industrial education on the graduate level, the committee endeavored "to find out to what extent both undergraduate and graduate curriculums are conducted by institutions offering graduate instruction in industrial education."

In addition to graduate instruction in this field, sixteen provide undergraduate curriculums in both industrial arts and vocational-industrial education. Four others offer vocational-industrial education alone and five report industrial arts only at the undergraduate level, while four institutions offer no undergraduate curriculums for teachers of industrial education. One of the institutions reported offering industrial education courses for undergraduates through extension classes only.

The inquiry disclosed also that the range of offerings of professional courses is great and that there is little uniformity of practice. There is wide variability in prerequisites in the major field of specialization. Fourteen of the thirty-two institutions list no specific course requirements; others list from one to three courses. During the year ending in August, 1939, these institutions enrolled 1,303 students in their teacher-training courses in vocational-industrial education, 1,031 in industrial arts, and 505 in courses designated industrial education. It was noted, moreover, that 47 per cent of the students registered in these courses were not candidates for an advanced degree.

The following excerpts from the report of the committee indicate

the most pressing problems involved in the development of desirable graduate training for teachers in the field of industrial education.

The most striking feature of the entire study is the wide variation in practices that is revealed regarding graduate study among the institutions reporting. This variation applies to every aspect of the study and suggests an almost complete lack of standardization.

It is probable, however, that certain basic experiences will, in the course of time, come to be regarded as important for all graduate students in any given field of education. There is some slight evidence of a trend in that direction with reference to two or three items in this study, namely, residence requirements and certain courses found in more than half the schools. Meanwhile, there stands out clearly the need for more careful consideration by graduate faculties of the whole question of just what the function of professional graduate study really is, and what experiences should be provided to fulfill that function.

This inquiry suggests further that the very great variety of practices may be, in part at least, a result of an effort to satisfy both the traditional graduate-school concept of advanced scholarly attainment and the professional-school effort to increase, through post-graduate instruction, professional knowledge and proficiency at one and the same time.

It is clear from this inquiry, as stated above, that the question of selection of candidates for graduate study is still in the stage of arbitrary rulings with little or no agreement as to a defensible basis for such selections. It is evident that there can be no large degree of uniformity of requirements at the graduate level with a high degree of diversity in entrance requirements. The wide variation in entrance standards here revealed is one of the most disturbing aspects of the present situation concerning graduate study in industrial education. It is probable that this problem is the one most in need of attention by institutions offering graduate instruction.[1]

IX. Summary

It may be well to restate briefly the problems that need the attention of teacher-training institutions.

(1) The planning of a more uniform curriculum.
(2) The reduction of overlapping of course content.
(3) The formulation of adequate test procedures for the selection of prospective teachers.

[1] Committee of the National Association of Industrial Teacher Trainers, *A Study of Industrial Teacher Education at the Graduate Level.* American Vocational Education Bulletin No. 2. Washington: American Vocational Association, 1941.

(4) The development of more effective procedures in the administration of practice teaching.
(5) The revision of courses to include better functioning content.
(6) The organization of a suitable curriculum for training supervisors.

An attempt has been made to emphasize the necessity of a thorough training course for vocational teachers and a few of the outstanding problems involved. The vocational teacher cannot rank professionally with other members of the teaching profession by reliance upon any short-cut methods. It is only through the organization of well-planned courses that the vocational teacher may reach the desired professional level.

CHAPTER IX

FINANCING VOCATIONAL EDUCATION

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The first task to be faced in financing an educational project is to determine the nature of that educational project. This seems like a truism, but it is the most neglected phase of financing education. That our educational programs go along haltingly, inadequately financed, is too often a result of our failure to divest ourselves of more or less unconscious assumptions as to the limitations under which we must work.

Vocational education has not been an exception. State after state has built its pattern of vocational education in the framework of the special aid of the Smith-Hughes and George-Deen Acts. The original Smith-Hughes Act, passed in 1917, was designed to stimulate development in the field of vocational education. This is reflected in the matching-grant plan of aid.

To make up for the all too inadequate conceptual design in the minds of general educators, the Smith-Hughes Act provided for imposing the conceptions of the groups that were responsible for promoting federal participation. The imposing of such conceptions may not have been intentional but it is the writer's belief that it has nevertheless been real, in spite of brilliant examples of federal office approval of unique programs. Federal leadership was always present to offset failure of state authorities to think through their problems. It was an ever-present crutch. This had distinct immediate advantages. It saved years of effort at informing the general educator. It gave him a more or less cut and dried conception. While such shortcuts to a better conceptual design which is as successful as the Smith-Hughes Act are great time-savers, unless accompanied by a vigorous program to stimulate thinking on the part of those who are in the last analysis responsible for operating the program, the general educators are doomed to become out-of-date and inadequate since they lack the corrective that comes from the slower but more permeating processes of thinking.

The vocational-education movement had no such educational program or, if it had, that program was not adequate. As a result, today schoolmen typically think of vocational education as education for which they can get federal aid. Too little challenge to this conception comes out of those who are actually carrying on the vocational work. They are trained for a particular system. They feel distinctly the line of control operating up through the state vocational officers to the federal vocational officers. Many of them feel that it would be unpolitic, if not positively unpatriotic, to question the adequacy of a program of education cut to the pattern of federally-aided vocational education.

I. Present Support for Vocational Education

As reported in the *Digest of Annual Reports of State Boards for Vocational Education,* the expenditures—federal, state, and local—for vocational education have increased in the twenty-two years from 1918 to 1940 from three millions to fifty-five millions.[1] Half of this increase has come in the last ten years. The total expenditure has increased by two-thirds since 1936. During this period the percentage of the total paid from federal funds has shown an upward trend. In 1918 it was 27 per cent. It varied around this figure until 1938, when it rose to 39 per cent. In 1939 is was 37 per cent and in 1940, 36 per cent. These figures, however, are somewhat misleading. The relatively low percentage coming from the federal government is due to the extensive programs carried by a few states, particularly Massachusetts, New Jersey, New York, and Wisconsin, all of which spend from state and local money at least three times as much as the federal government provides. Eight other states provide at least twice as much as the federal government provides: Arizona, California, Connecticut, Florida, Indiana, Pennsylvania, Texas and Utah. The other thirty-six states and the District of Columbia, Hawaii, and Puerto Rico appear to have their programs fairly closely established by the pattern of federal aid. In fifteen states the federal government provides more than half of the money spent. These are Arkansas, Delaware, Idaho, Kentucky, Maine, Missouri, Nebraska, Nevada, New Hampshire, New Mexico, North Dakota, Oklahoma, Vermont, West Virginia, and Wyoming.

[1] *Digest of Annual Reports of State Boards for Vocational Education to the United States Office of Education,* Vocational Division, Fiscal Year Ended June 30, 1940. Issued May 1, 1941, by Federal Security Agency, United States Office of Education, Vocational Division, Washington, D.C.

The above figures, it should be understood, are based on what the Vocational Division of the United States Office of Education defines as vocational education. They appear to include some vocational education activities that are different from those that are federally aided.

II. An Approach to a Financing Plan

The first task then in the financing of vocational education in a state or a community is to bring these assumptions out into the open and blast them. Vocational people themselves should be assured that it is acceptable in America to think outside of the pattern of Smith-Hughes and George-Deen aided vocational education. State departments of education must realize that it is socially desirable for them to consider the occupational-training needs of all the children in the state as the chief criterion rather than the acceptableness of any proposed action in terms of federal aid.

The second problem which the financing of vocational education holds in common with the financing of every other educational project is that of dropping the notion that education is already taking so much from the people that we cannot think in terms of an educational program which would do more than provide a few palliatives for the sore spots in the system. No adequate financing plan can be developed so long as we start hedging before we start thinking.

The second step, therefore, is to avoid compromising in the foundational thinking and to save compromising until the problem is thought through in an adequate fashion. Only then can we really know what we are compromising with. A goodly number of the states in the Union are better able to finance vocational education than is the federal government, yet some of these abler states are today taking the point of view that if they somehow get all of the federal funds matched they have met the problem of vocational education.[2] At least

[2] Of the thirty-six states that appear to have their program pretty well determined by the federal-aid program, eight are above average in ability to support schools. Six of those spending twice or more than the federal grants have less than average ability. Their programs should make a particularly interesting subject of study. They are Florida, Texas, Wisconsin, Indiana, Utah, and Arizona. (Based on Paul R. Mort and Eugene S. Lawler, *Principles and Methods of Distributing Federal Aid for Education*, p. 12. Prepared for the Advisory Committee on Education, Staff Study Number 5. Washington: United States Government Printing Office, 1939.)

these abler states are not justified in taking any point of view short of saying, "Let us work out the kind of a vocational-training program which this state needs. Let us see how it can be operated; how it can be financed. When we once see this, but not until then, let us ask ourselves how much towards its support we can get from the federal government without making concessions. Let us count the cost and put it over against life advantages and economic advantages. Let us then bring in the best and wisest citizens to see how they react toward doing an adequate job of vocational education before we start selling out a good idea—before we as educators know what the public wants when it has been informed." *It is a safe assumption to say that the public stands for so little in the way of public education largely because the public has very little understanding of what good education can do.* We must remember that a program that goes only a little way toward meeting needs has little dramatic appeal, whereas an intellectually honest program, because of its very effectiveness, has a thousand points of appeal.

III. A Conceptual Design—What to Finance

To talk of the financing of vocational education without a conceptual design is absurd. The financial program flows out of the conceptual design itself. In order, therefore, that we may illustrate the nature of the problems of finance, it will be essential to postulate a conceptual design of vocational education.

Discussions of vocational education touch on four levels: first, those aspects of general education which provide a foundation for the work life as well as for the non-work life. Even the most traditional schools provide such useful skills as reading, writing and arithmetic, which are useful in most occupations and highly essential in many. The better schools supplement these skills with a knowledge of social and economic problems and with habits of working with other people which are of increasing importance in an area in which the worker as well as management have an opportunity to participate in policy formation. In the school there is close association between those who will eventually be on one side of the table and those who will be on the other side. This phase of educational experience is highlighted by those cartoons of Williams in which young boys discuss the tendencies of their fellows with respect to their significance for future work relationship.

On the second level are those phases of the work arts which not only acquaint children with raw materials and their properties but also develop some degree of skill in the handling of the tools of the occupation. Some believe, for example, that it is essential that children have an opportunity to develop the small muscles in their hands if they are ever to be good workers in such fields as the textile industry.[3] While these objectives have been particularly emphasized in the industrial arts, the possibilities of more work experience in the other work arts are exceedingly promising and in some schools include not only industrial arts but also home arts, farm arts, business arts, marine arts, and arts of the air. The objective of this whole range of work arts lies in the minds of most people perhaps in the area of orientation, along with the social studies on the one hand, and with the sciences on the other. Granted the validity of the assumptions, the work arts deserve greater emphasis than the schools give them.

A third level of consideration has its orientation in the direct vocational objective rather than in the objectives of general education. When it has been pointed out to vocational people that a goodly number of those who have had extensive vocational training have not gone into actual operation, and that vast numbers who have registered for such courses have never completed them, their answer frequently has been that these courses are not oriented towards a specific occupation but that their purpose is rather to provide skills which will be useful in a wide range of occupations. The fact that they do not claim value in the area of general education, although such claims are justified in much the same degree as they are justified in the work arts, differentiates them from the work arts which have as their chief objective the general educational objectives.

Finally, there is the fourth line of consideration which appraises a course in terms of what it does to prepare young persons to enter a specific occupation. We have seen this emphasis in the defense-training work in those courses which provide for a period of training not established in terms of a set time but rather in terms of a minimum of training necessary for entering a job, varying in time required according to the individual aptitudes or past training.

Clearly, when it comes to a consideration of the educational activi-

[3] Several years ago this point was made the basis for developing certain types of handicraft work in the schools of Sanford, Maine. This work was stimulated by the Goodall Worsted Company, particularly by William Nutter, vice-president.

ties themselves, there are sectors in which the patterns of vocational education and general education overlap. Some young people will find even in the most traditional educational program, specific skills, attitudes, and understandings which will make it possible for them to enter work life without any additional training. Others who have taken courses purporting to give them the specific skills for entering into work life will find that the only value they have obtained will be what the experience has contributed to their general understanding of the world about them (consumer values, social policy values). We can describe one set of courses as *primarily* general and another set of courses as *primarily* vocational. Within an actual school class, however, there will be individuals who will not fit the classification that represents the primary purpose of the class. This seems to call for as close association of vocational work with the remainder of the educational program as is physically possible. The dichotomy of primary purposes must not be allowed to interfere with the function actually served. It also stresses the need for the most alert type of guidance.

From the standpoint of major interest, the latter two considerations (training in skills useful in a range of occupations and the type of training which will make possible entry into work life in a given occupation) would probably be classified by most people as vocational.

In quite a different field from this group of considerations there are the demands of equality of opportunity. Most people would subscribe to the point of view that a young person should not be denied preparation for any given type of occupation that he is fitted for and which he desires to undertake. If we apply this criterion, the tendency to limit occupational training for country boys and girls to agriculture and home economics must deny a considerable number of young rural persons a chance to enter industrial occupations with training comparable to that of their city cousins. Similarly, the tendency in industrial centers to ignore the agricultural arts represents a distinct limitation on the choice of young persons in these areas. If we subscribe to this interpretation of the equalization principle a plan for vocational education based on the assumption that what is needed is training for a broad group of occupations, it would require some plan which would provide guidance to all children needing occupational training, associated with a plan by which they could go to the centers where such training is obtained. The writer's attention has been called to a theoretical alternative of offering courses of such a general type that

they would serve many occupations but he is advised that such an alternative is not practical.

IV. Financial Implications for General Education

The discussion that follows accepts as a conceptual design for vocational education that all four considerations mentioned above should be given due emphasis.

In the majority of communities in the United States this means the supplementing of the traditional curriculum by those activities which will meet the social objectives alluded to above and by opportunities to become acquainted with the work arts—industrial, domestic, business, agricultural, marine, and air. These are opportunities which we do not customarily place under the head of vocational education but their vocational implications being every bit as strong as their implications for other aspects of life, we can hardly expect to have our youth prepared for work life without adequate consideration of them. To give adequate consideration would require, conservatively speaking, increased expenditure levels in from 50 to 75 per cent of the schools of America and increased expenditure for current purposes only of more than a third of a billion dollars.[4] (Studies engaged in by the author since writing this chapter indicate that these estimates are far too conservative.) The greater part of this would of course be in the poorer states but there is a sizeable amount of lag in the expenditure level in even the abler states.[5] It is proposed, therefore, that any consideration of vocational education in a state that does not take account of a proper building-up of the general-educational program including the social and work art phases is unrealistic. However difficult this may be, and however long we may be in achieving it, it should come at the head of any list of demands made upon vocational education. Here the general educator and the vocational educator must stand shoulder to shoulder. Where the job is done it will not be possible to ascribe a certain part to the cost of vocational education and a certain part to general education. It would

[4] See Paul R. Mort and Francis G. Cornell, *American Schools in Transition*, chap. viii. New York: Teachers College, Columbia University, 1941; *Schools for Our Children*, Vol. I, chap. v, Report of the Commission on the Legal Structure of Rhode Island Public Education. Providence: The Commission, February, 1941; and Paul R. Mort, *Federal Support for Public Education*. New York: Teachers College, Columbia University, 1936.

[5] Paul R. Mort, *Federal Support for Public Education, op. cit.*

therefore seem to be a wholesome thing for all educators to consider this the foundation and to avoid the assumption that they can adequately care for education for work by some shortcut of supplying shops, laboratories, and machinery; that is, simply by adding vocational education to an otherwise poorly supported general education. Both adequate general education and adequate vocational education should be provided in every community. Neither should be drawn into a logic-tight compartment of its own.

The financial implications are clear. We cannot care adequately for vocational education without much more adequate equalization of support for general education. Expenditures for education, general and vocational, in more than half of the communities in America must be increased. Among other things this requires federal aid for education amounting to at least $576,000,000 annually.[6] (See parenthetical note in preceding paragraph.)

V. Demands for State Participation in Operation

Adequate provision for the more vocationally oriented type of education must be one in which the state must participate, inasmuch as any adequate consideration of the demands of the equalization principle seems to make it difficult to provide the necessary facilities within every school district that operates a high school. This would certainly be true with respect to the school districts as they exist today and will be true fifty years from now even if all the best advice on school district reorganization is put into effort in the intervening period. Like it or not, therefore, we must face some plan of state operation of facilities for vocational education and we must face the necessity of some plan of adequate vocational guidance of all young persons. We must also face the necessity of providing for school transportation and subsistence outside the frame of reference of most state school systems today.

This is not to say that we must not always have before us the realization that whatever might be done in state-operated schools has general-educational value. In fact, the very shops, laboratories, and materials of vocational education will have an important use in giving experience for general-educational purposes to young persons who are

[6] Paul R. Mort and Eugene S. Lawler, *Principles and Methods of Distributing Federal Aid to Education.* Prepared for the Advisory Committee on Education, Staff Study Number 5. Washington: Government Printing Office, 1939.

not now interested in the vocational objectives, whether they eventually become machine operators or farmers or doctors or lawyers or school teachers.

Clearly, if distances are to be taken into account, state vocational centers must be scattered rather than placed in one central point. If some industry is centralized in a part of the state like the glass industry around Corning, New York, or like the textile industry around the southwestern section of Maine, for example, it is reasonable to expect that most children who would be interested in those occupations will be the local children. This, however, should not be accepted as an adequate meeting of the problem. Young men and women far removed, with special skills or special interests in these occupations, should have the opportunity for these types of vocational education. Each of these centers, therefore, should have provisions for housing and for transportation. There is a precedent for this in dealing with general education in the unorganized territories that make up more than half of the area of the State of Maine. There is a precedent in the practice, particularly in the northwestern states, of providing subsistence costs in lieu of transportation. There is a precedent in the practice in the Union of South America of providing dormitories with free board and room to children who live so far from the schools in that sparsely settled land that transportation is out of the question.

The additional cost to the state of this part of the program must take into account present state participation in the support of general education. If the state is operating under a plan of equalizing the burden of public education, the transfer of a youngster of high-school age from a regular school to a state vocational center would automatically reduce the amount of state aid to the regular schools by the per-pupil-cost of the foundation program equalized. For example, in the State of New York this is almost $100. Toward the operation of such centers in New York State there would therefore automatically be available approximately $100 per pupil. As states do a better job with the basic program, the less will increased cost be involved in providing vocational opportunities.

To this would be added the additional cost of operating such centers, including the costs for subsistence and transportation involved. Consideration would also be given at this point to the amount of federal aid that would be available on account of those aspects of the program that happen to fit into the federal pattern as it is locally understood.

In making such computations it would be wise to assume a minimum of such contributions to the cost of the program rather than a maximum. This should relieve the pressure to vary too greatly from the conceptual design developed within the state in order to fit into the conceptual design of those operating the program from the United States Office of Education. There are several states that do not now take full advantage of federal aid. This is generally looked upon as something to be deplored. We may raise the question of whether or not in some instances the amount now being taken is not too great rather than too small.

VI. Locally Operated Opportunities

On the assumption that we wish to operate locally as much of the educational program as can be cared for effectively through home rule, there will be many types of occupational training which can be operated by school districts. Where, however, these school districts are small, as they are in most states, it will be found that the locally operated vocational centers must be made to serve a much wider territory than the school districts in which they are operated. With respect to these centers, therefore, the state must be concerned with planning for the whole area rather than for the individual district in which the project is located. As it too often operates at the present time, these local vocational centers are set up in terms of the immediate district. If children from other districts can take advantage of them they are welcome to do so, but too little attention is given to the planning of the needs of the whole area served.

Furthermore, where the larger area includes many high schools, most state laws do not permit a child to transfer from his own district to another district and have his tuition paid. This problem should be met by a provision in the law which will permit boys and girls of high-school age to transfer to a high school other than their own where the educational facilities are superior for their purposes. To keep such transfer from being made simply because of the whims of parents or children, provision should be made for some independent authority to pass on all such cases. This is needed in other areas as well as in vocational education.

Since such children will be counted in state aid for attendance whether in their home school or in the other school, the cost of the training up to the unit costs of the foundation program, plus any addi-

tional central aid, will be cared for automatically. The excess cost should be a mandatory charge against the district of residence.

VII. Comparison With Present Approach

It becomes clear that the financing of vocational education, except in special phases, cannot be dissociated from the financing of general education without harm to both emphases in the life of the school. To obtain adequate financing of vocational education we must work toward adequate financing of *education.* Associated with the program of adequate financing of education there must be a program of study and thinking participated in by educators and laymen alike which will lead to a more adequate conceptual design. As this is achieved there will unfold proper emphasis not only on the work arts but on vocational education. When such a proper emphasis has been achieved the writer predicts that the offerings in vocational education will be so extensive that what we are now doing will seem small and insignificant indeed.

The primary job, then, in the financing of vocational education comes back to the development of an adequate conceptual design in the minds of educators and in the minds of the public. Any step that we take to spur on a special emphasis on vocational education will in the long run prove to be hampering unless it is associated with the kind of a program of education which will cause it to be superseded by a more complete and more far-reaching one. The writer ventures to suggest that the Smith-Hughes law would have achieved its greatest purposes if in its first ten years of operation it had been accompanied by a vigorous program of education on the one hand and a more vigorous program of general educational finance on the other.

When the Smith-Hughes law was passed the present writer was a superintendent of schools in a poverty-stricken community in southern Indiana. There was rich bottom-land and worn-out hill land. The rich bottom land was owned by two or three families. Those who lived on the hills raised their inadequate patches of corn, like Sergeant York, and cut railroad ties which they could sell to get a bit of cash money. Their other sources of cash money was what they got from the rich families in the valley. The high school, inadequate as it was, was well attended. It was the only hope for those who lived on the hilltops. They could go through this inadequate high school and after

four years be accepted by the state university. This in turn became an open sesame to work in Indianapolis, Chicago, or St. Louis, or to entrance into the teaching profession. The school itself was a sort of suction pump, drawing off the best in the community and scattering them afar.

VIII. A Problem of Evolution

This paper has been written in terms of what can be done in communities in the states above average wealth in this country and those that are not so far below the average but what they might make the additional effort to provide occupational training. The poorest states will still remain as this community in southern Indiana has remained until a more adequate plan of financing, not "vocational education" but "education," has been devised. The abler states need not await this. They need to shake themselves loose from the 1917 conception of reward for effort to realize that their destinies are really in their own hands.

Only as those concerned think through the conceptual design of education in each state; only as they test their present system of operating schools in terms of their ability to provide this conceptual design; only as they test a thoroughly developed conceptual design by the reactions of members of the lay public, will they begin to find their pattern for financing vocational education in any state. It is a job in each state for state officers, school superintendents, school board members, teachers of vocational and general subjects, and public-minded citizens.

CHAPTER X

LEGISLATIVE COMMITMENTS AFFECTING VOCATIONAL EDUCATION

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I. The Influence of Federal Aid

The program of vocational education in America, under public school auspices, has been based upon and made possible by the official commitments of public legislative bodies—local, state, and national. Some of the original legislative enactments have been interpreted or modified by administrative or judicial decisions or by later legislative enactments.

Appropriations or grants-in-aid by federal or state governments and authorized expenditures by local governments constitute legislative enactments when authority for the use of any funds involved is included within the appropriation act itself. This is especially true with respect to federal appropriations for certain types of vocational education. In some few cases the state legislative enactments for the development of vocational education preceded the enactment of the federal acts pertaining to vocational education. A few states had vocational-education programs under way on a limited scale previous to the passage of the federal acts. In most of the states, however, the program of vocational education was initiated and developed under the stimulation of federal funds.

One of the main purposes in seeking federal funds for vocational education was that of stimulating states and local communities to set up their own occupational training programs. A study of the records through the years clearly reveals the stimulating effect on state and local communities of the availability of federal funds. Some persons feared that the use of federal funds for vocational education would result in the use of these funds in the place of rather than in addition to state and local funds. However, experience has proven that these

fears were groundless. Each year sees a larger proportion of state and local funds spent for vocational education in comparison to the federal funds involved.

It should be clearly understood, however, that there is a marked difference between the use of federal funds for the regular or long-range program of vocational education and the use of federal funds for the defense training or for the training program for war-production industries. Federal defense-training funds have not been provided for the purpose of stimulating a developing program of vocational education in the various states and local communities. These funds were appropriated to make possible a quickly accelerated national program covering the period of the emergency.

Any discussion of the use and effect of federal funds for vocational education must consider the need and the purpose for which these funds were made available, as indicated by the legislative enactments. Furthermore, it must be borne in mind that millions of dollars of federal funds are now available for various types of vocational education, although the legislative enactments making these funds available in many cases do not use the term "vocational education." Federal appropriations for apprentice training and for training within industry are in effect vocational-education funds. Also a large portion of the huge sums appropriated for the National Youth Administration have been used for vocational training.

II. The Relation of Appropriations to Control

It is essential that we understand what is involved in the above-mentioned federal appropriations. These funds are expended for a program of vocational training that is under the direct control and administration of a centralized federal agency. A comparison of the amounts made available for vocational education under the supervision of the United States Office of Education, but under the direct administration of state and local school systems, and the amounts being made available for the federally directed vocational-training programs reveals that relatively small sums are being disbursed under control of the educators of this country, while huge sums are being administered by noneducational, semipolitical divisions of the federal government.

For many years, under the Smith-Hughes Act, and in more recent years under the provisions of the George-Deen Act, training for ap-

prentices and for men employed within industry has been quietly but very effectively carried on under the auspices of public vocational schools. The training portions of these programs can still be well and efficiently conducted under the leadership of trained vocational educators connected with our public school system. However, the present tendency of certain federal agencies is to project federal control into the community and even into the industry where arrangements are being made for vocational training in connection with the manpower problem. Perhaps this system is given consideration for the moment for two rather important reasons. In the first place, we are at war and control by the federal government over many activities is permitted for the time. In the second place, the federal government is paying the bill for this training within industry through the permission granted in war contracts to charge a certain percentage of the contract price to meet the cost of training. Both of these reasons for operating this training system on a centralized, federal basis will quickly disappear at the end of the war. It is expected by many that a large portion of these programs of training within industry will then cease or will be operated under the jurisdiction of the public vocational schools.

There are many who regret the failure to use the existing educational machinery through national, state, and local educational agencies for the development of some of the needed vocational-training programs. This tendency has already given evidence of the possibility of conflict of authority, with consequent administrative irritations. It is rather surprising that the rapidly developing federalized control of important educational procedures and programs entirely outside of the educational structures built up through the years seems to have escaped the attention of those who are charged with responsibility for the program of public education in this country. It seems tragic that some of our educational writers and critics are so busy pointing out the evils of federal control in the operation of the Smith-Hughes Act that they have not yet discovered the new highly centralized form of federal control of education in the National Youth Administration, the training-within-industry program, and the federal apprenticeship-training program. The foregoing is not intended to criticize training within industry or the training program for apprentices, as such. It is intended merely to call attention to the centralized control of the educational portions of these programs. The

fact that these new educational controls have not come about through basic legislative enactments but rather through annual appropriations should, in itself, cause us to pause and consider the trend of the times with respect to federal control of education.

While the training-within-industry program should prove to be a quick and direct manner of training employees for a war emergency and can therefore be justified on a war emergency basis, it is by no means an economical method of training men for industry. It is based upon the assumption that every learner should be paid full wages while he is learning. This creates a situation involving some discrimination, since the man who has a job receives his wages while he is in training, whereas the man without a job must secure his training without the aid of wages. After the present war emergency becomes a matter of history, we will face other serious economic and social emergencies of major importance, but we shall have passed through the period of large, liberal, flexible appropriations into a period of the closest scrutiny of all legislative appropriations. The provisions for the vocational-training needs of the postwar period will be reflected in the type of legislative enactments that then appear. It is to be expected that vocational training in the postwar period will be more in accord with basic legislative enactments and less dependent than now on flexibly interpreted appropriations.

III. Trends in Federal Legislation

The first major federal appropriation act was the Smith-Hughes Act of 1917. This was actually an appropriation act. The more recent supplemental federal legislative enactments in the interests of vocational education have all been in the form of appropriation authorizations rather than appropriation acts. This is true of the George-Reed Act of 1929, the George-Ellzey Act of 1934, and the George-Deen Act of 1936. Each of these three acts authorizes the annual appropriation by Congress of federal funds for certain phases of the vocational-education program. Being authorization acts, rather than appropriation acts, they are dependent upon annual appropriations by Congress, the appropriations being based upon the authorizations in the acts. The Smith-Hughes Act was one of some 250 permanent appropriation acts passed by the Congress of the United States. Most of these permanent appropriation measures were enacted by Congress previous to the passage of the Smith-Hughes Law. Not long after

the passage of the Smith-Hughes Act, the trend in Congress shifted away from permanent appropriation acts, substituting authorization acts as a means of supporting approved subsidies.

Because of the inadequate provisions of the George-Ellzey Act, and further because this act would expire in 1937, a new act was prepared which, when enacted in 1936, took the place of the George-Ellzey Act and provided for further extensions of the program. It is rather interesting to note that in the above series of four federal vocational-education acts, the Smith-Hughes Act was a permanent appropriation, the George-Reed Act a five-year period authorization, the George-Ellzey Act a three-year authorization, and the George-Deen Act a permanent authorization.

It is important to note that each of the three later acts supplemented the Smith-Hughes Act and extended the program of vocational education as provided for in the first law. The George-Deen Act of 1936 not only extended the scope of the program of vocational education, but it made much more adequate provision for financial assistance for the program through greatly increased federal funds.

Previous to our being plunged into the present world-wide conflict it was evident that there was rapidly developing a demand for further widening of the scope of the program of vocational education and a much more extensive development of this program. Vocational education has passed through an era of unpopularity into one of popularity and has now reached the stage where the public pressure for an adequate, comprehensive system of vocational education must be reckoned with. This public demand will undoubtedly be reflected in new, flexible, enlarged vocational-educational opportunities provided for in some new federal legislation. This pressure has already been recognized through the emergency federal appropriations made from time to time in recent months for the national defense-training program, which has now become the training program for war-production workers, as described in chapter xi. This is very significant and undoubtedly has important implications for possible future federal legislation in the field of vocational education.

A comparison of the operation of the long-range program of vocational education under the provisions of the Smith-Hughes and the George-Deen Acts with the programs of training in national defense or in war production under the provisions of special appropriations reveals an interesting contrast. The administration of the Smith-Hughes and

George-Deen funds is under the supervision of the United States Office of Education which distributes the funds to the states according to the definite provisions of these acts. The Smith-Hughes and George-Deen programs are not actually administered by the Office of Education, but are operated by and through state boards for vocational education and local school districts. On the other hand, the training programs for national defense or war production are operated directly by the federal government, with administrative authority in the War Production Board, the War Manpower Commission, and the United States Office of Education. Federal appropriations available under the program of war-production training are not distributed to the states in accordance with any formula of distribution. The distribution of these funds is entirely in the hands of federal authorities who, in many cases, deal directly with local communities. It is a highly centralized, federally controlled and federally operated system of vocational education, in contrast to the decentralized, co-ordinated program under the Smith-Hughes and George-Deen Acts.

IV. Recent State Legislation

The passage of the Smith-Hughes Act and the succeeding federal vocational-education acts up to and including the George-Deen Act had a marked influence on vocational education in the various states. Legislatures by proper enactments made it possible for the various state school systems to take advantage of the funds available under these acts.

Even though the programs of defense and war-production training are financed almost entirely by federal funds, a number of state legislatures have extended the program of vocational education by appropriating additional funds for this purpose.

Some of the more important legislation recently enacted in aid of vocational education is briefly summarized in the following pages.

(*a*) *Arkansas.* The General Assembly of Arkansas in the 1941 session passed Acts 295 and 261, which provide for the establishment of the Arkansas State Trade School. The legislation prescribes a liberal course of instruction and training in trade and industrial subjects below the college level and provides for evening and part-time classes, including apprenticeship courses. In both day and extension activities, the requirements of state and federal legislation as well as the regulations of the Department of Labor will be observed.

(*b*) *Illinois.* The state appropriation for vocational education was increased by more than 48 per cent. This reflects the public attitude toward this program in Illinois.

(*c*) *Indiana.* In 1941 the Indiana Legislature amended the 1913 state vocational education law to include official travel of vocational teachers as a reimbursable item in the cost of vocational instruction. Previously the salaries of vocational teachers constituted the only reimbursable cost.

(*d*) *Massachusetts.* During the past decade the public has become aware of the problem of unemployment, and books have been written in which school graduates are referred to as the "lost generation." To correct this situation in Massachusetts, the legislature has empowered the commissioner of education to appoint a supervisor of placement, whose duty it will be to co-ordinate a program of placement directors in various communities throughout the state. The act is optional with the cities and towns, but it is recommended that they retain full-time placement directors in their high schools to work in the field and obtain vocational opportunities for the graduates. In smaller towns, a union may be organized so that a single placement director may serve a group of schools. Each community receives two hundred dollars annually from the state toward the salary of such a director.

A second bill approved by the legislature creates the Massachusetts Youth Planning Board for the purpose of co-ordinating activities of state government, industry, schools, labor, public and private social agencies, as they relate to the educational and employment problems of our youth. The commissioner of education serves as chairman of the special board. Other members include the commissioners of welfare and labor and industries along with five representative Massachusetts citizens. Upon this board will rest a large part of the responsibility of preparing Massachusetts' young people for places as good American citizens. The planning board should also be of valuable assistance to placement directors throughout the school system.

(*e*) *New Jersey.* In New Jersey there has not been any legislative action that affects vocational education other than empowering certain school districts to establish county vocational schools.

The Ferster Act, which became effective on September 1, 1940, eliminated the compulsory continuation school law. This was accomplished by stepping up the compulsory age for attendance in public schools to sixteen years of age. Previously, youth between the ages

of fourteen and sixteen in New Jersey could obtain employment provided they attended continuation schools for six hours a week.

(*f*) *North Carolina.* The Machinery Act, which passed the General Assembly, continued a provision which has been a part of the Machinery Act two or three years, permitting county and city administrative units to levy an ad valorem tax for the support of vocational education in agriculture, home economics, and trades and industries without a vote of the people. This is the only phase of public education for which local taxes may be levied by the tax-levying authorities without the vote of the people.

The General Assembly of 1941 passed an act providing for a twelve-year program in the public schools. This will no doubt have an important bearing upon the vocational-education program of that state.

(*g*) *Ohio.* The State of Ohio in the 1941-42 regular session of the General Assembly provided for the creation, administration, and financing of joint vocational-school districts.

(*h*) *Oklahoma.* The Oklahoma State Legislature in its 1941 session passed an act providing for reimbursement on salaries of teachers of agriculture employed for twelve months.

This means that state aid in Oklahoma, for the first time in the history of the state, is being distributed to districts in recognition of the twelve months' contracts for vocational-agriculture teachers and for as many months for the other divisions as the approved local contracts provide.

(*i*) *Oregon.* There were three important enactments passed: (1) The state board for vocational education and the state board of education were consolidated. The members of the existing vocational-education board became members of the new state board of education. (2) The state board for vocational education was empowered to establish regional vocational schools and given full authority to provide for establishment and maintenance of such schools with the important exception that no real property could be purchased. (3) As a basis for revenue to support regional schools, one-sixth of the proceeds from a cigarette tax amounting to two cents per package was voted by the legislature. However, a referendum was filed against this measure so it is inoperative at present and will be voted upon at the general election in November, 1942.

(*j*) *Pennsylvania.* Pennsylvania has been fortunate in securing a 40 per cent increase in state vocational appropriations for the present

biennium. The employers are very conscious of the need for trained help, due to the defense boom in industry at the present time.

Pennsylvania also has a special appropriation of $75,000 to be used for programs designed for retraining the unemployed, when the use of federal funds might be questioned in the support of certain desirable programs.

When the George-Deen Bill was being considered by Congress, the mayors and other municipal authorities in Pennsylvania cities were very co-operative in helping to secure enactment of this legislation. Pennsylvania has felt an obligation to serve the needs of these "public and other service occupations." The State Board for Vocational Education organized a state vocational school known as the Public Service Institute, which has undertaken an extensive program of training for policemen, firemen, assessors, tax collectors, correctional workers, secretaries of school boards, and others. This program has been very successful. The Public Service Institute is now exerting a leading role in a training program for civilian defense workers.

In connection with the development of the war-training program, the State of Pennsylvania created the State School of Aeronautics in co-operation with the Middletown Depot. The school is operated under the direction and supervision of the State Board for Vocational Education but in close co-operation with the military authorities of the air depot.

(*k*) *Vermont.* Legislation affecting vocational education was passed at the 1941 session of the Vermont State Legislature. It was an act establishing an arts and crafts service in the state department of education, and providing for the appointment of a director of arts and crafts. The act provides for a revolving fund not to exceed $800 for the purpose of aiding needy persons or groups of individuals to buy materials or equipment needed in becoming established in craft work.

The duties of the director of arts and crafts include the promotion of arts and crafts throughout the state, co-operation with the state supervisor of trade and industrial education, the establishment of training classes, assistance and guidance in marketing for all those engaged in crafts, and aid in improving design or workmanship of craft producers.

CHAPTER XI

VOCATIONAL EDUCATION FOR NATIONAL DEFENSE

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I. INTRODUCTION

The necessity for the United States to take steps to safeguard itself from the growing strength and victories of the Axis countries became evident during the early part of 1940. To take these steps, it became essential to increase production of war industries far beyond that of any previous time. A considerable dearth of skilled labor necessary to produce the enormous output planned in war industries was evident even though there had been a general expansion of vocational training in recent years.

Realizing that an enormous training program must be carried out, the federal authorities were concerned with the problem as to who should do this training. Much deliberation and debate ensued. In recognition of the emergency, several agencies were anxious and willing to accept the job of training workers for war industries. Whether the training should be included in the already established vocational programs operating within the various states or should be turned over to one of the newer federal agencies which had entered the field of vocational education was not an easy question to answer.

II. DEFENSE TRAINING IN PUBLIC SCHOOLS

The passage of Public Law 668 on June 27, 1940, made available $15,000,000 for the training of workers for defense industries to be allocated to the states through the already-established state boards of vocational education. This money was allocated to public school ad-

ministrators to determine whether the vocational schools were able to carry out an effective program of training for defense workers. The results of this trial program proved that state boards for vocational education could carry on a productive and efficient program of vocational education for national defense. As soon as word was received from the United States Office of Education, many states immediately put into operation vocational classes for the training of defense workers.

The funds appropriated under Public Law 668 were intended only for the months of July and August, but it was found that sufficient monies were available to continue the program into the fall until a second appropriation could be made. The passage of Public Law 812 in October, 1940, considerably expanded the program for the period up to June 30, 1941. An analysis of this law shows that $26,000,000 was appropriated for two types of courses of less-than-college grade: first, supplementary to employment in occupations essential to national defense; and second, pre-employment refresher courses for workers preparing for such occupations. Courses conducted on this basis are commonly referred to as the Number One Program because the appropriations for the courses are covered in section one of Public Law 812. Each course offered is determined on the following basis: What are the local training needs? Is the occupation for which training is offered essential to war industries? Does a shortage exist or is it anticipated in the occupation as determined by the War Production Board in its *List of Occupations*?[1] Common occupations for which training is given are in the metal trades, shipbuilding, aircraft manufacturing, radio, and welding. Where it is desired to offer courses that are not on the above list, special permission must be obtained from the War Production Board.

Pre-employment or refresher courses are normally set up to operate between fifteen and forty hours a week, depending upon the employment status of the trainee. A minimum of thirty hours of training per week is required of unemployed persons who desire training which will prepare them for employment in war industries, but a large majority receive at least forty hours per week. Instruction for a minimum of fifteen hours per week is permitted if the trainees are employed at the

[1] *List of Occupations.* Approved by the Office of Production Management for Vocational Training Courses for Defense Workers. Washington: Federal Security Agency, United States Office of Education, 1941.

time of training on a part-time basis or are taking training in a field not related to their present daily employment. The total hours required to complete a pre-employment course vary with the nature of the occupation for which training is given; however, most courses average about three hundred hours. The primary objective in all defense-training programs is to train persons for a specific job or operation and not for all-around ability on the level of an advanced apprentice or journeyman.

Supplementary courses are usually operated between six and nine hours a week and include training that is largely upgrading in nature. For example, a person employed as a bench hand in a machine shop may wish to receive supplementary training which will prepare him as a lathe, milling-machine, or shaper operator; in this case, the trainee would attend supplementary classes during odd hours to receive instruction on a lathe, milling-machine, or shaper. Other courses of supplementary nature which are proving of considerable value are shop mathematics, blueprint reading, and trade science. In many instances, persons learn to operate certain machines or equipment but do not have the necessary related training to do more advanced work.

The O.S.Y., or Number Four Program, was allotted the sum of $10,000,000 to provide training for out-of-school rural youth who have attained the age of seventeen and nonrural youth who are unable to attend defense classes provided for under other programs. The training is confined to the automotive, electrical, and metal trades with the view of creating a reservoir of youth who may go into defense industries or as a selection and guidance function prior to advanced or specific training. Particular emphasis is being given to the repair and maintenance of farm machinery. Youth are given the opportunity to work on farm tractors, mowers, binders, etc., so that repair jobs ordinarily done by outside mechanics are effectively being done by these youth. Courses are for fifteen hours a week for eight weeks.

An allocation of $7,500,000 was also made for the establishment of training courses for youth employed on work projects of the National Youth Administration. The subjects offered are related to the occupations in which the N.Y.A. youth are employed and are conducted with the view of furthering their technical knowledge and increasing their job efficiency so that they ultimately may be employed in defense industries. Ordinarly the courses are operated sixty hours a month, the N.Y.A. youth receiving their regular wage while attending

classes. This program is referred to as the Number Five Program since it is provided for in Section Five of Public Law 812. There has been a considerable curtailment of all training not essential to national defense on the N.Y.A. Number Five Program since the entry of the United States into war. Where N.Y.A. youth are employed on projects essential to the war effort and receive related training, such related training is now being given under the Number One Program.

The above three programs, namely, Number One Program, O.S.Y. Program, and Number Five Program, are all of less-than-college grade and are under the administration of state boards of vocational education in various states.

Public Law 812 also provided $9,000,000 for short engineering courses to be conducted by engineering colleges and universities to expand the training of persons needed in the field of engineering. The Engineering, Science, and Management Defense Training Program, as it is referred to, is operated directly by the colleges or universities and is not connected with the defense-training programs under the administration of state boards for vocational education. The engineering program is organized in two parts—pre-employment and in-service training. The courses are of college grade and are from ten to twelve weeks in length. Their purpose is to train men and women with previous engineering education or experience in the natural sciences and related fields such as chemistry, physics, and higher mathematics for specialized research, production, management, and other jobs in war industries requiring engineering training.

Realizing the needs for expanded facilities and the replacement of worn-out equipment in vocational shops, $8,000,000 was provided for the purchase and rental of equipment. The provision of funds for equipment has materially affected the general efficiency and expansion of defense-training programs. Many schools and communities have been able to establish new vocational shops or to augment their present facilities from these funds.

In order to continue and to expand the programs provided for under Public Law 812, additional allocations for the fiscal year of July 1, 1941, to June 30, 1942, were made under Public Law 146. The scope of national defense-training programs has reached a magnitude far beyond that which was anticipated when the programs were inaugurated. Table I shows the rapid growth of this program during the first two years.

TABLE I.—CUMULATIVE TOTAL ENROLMENT IN NATIONAL DEFENSE VOCATIONAL-TRAINING PROGRAM UNDER PUBLIC LAWS 812 AND 146

July 1, 1940, to June 30, 1942

PROGRAM	July 1, 1940, to June 30, 1941	July 1, 1941, to June 30, 1942
Number One Program		
Cumulative pre-employment	420,530	1,051,346
Cumulative Supplementary	467,614	1,010,610
O.S.Y. Program	254,511	308,745
N.Y.A., Number Five Program	285,541	583,476
E.D.T., Engineering Program*	53,545	489,204
Total	1,481,741	3,443,381

* Instruction began on December 9, 1940.

The following table shows the breakdown of federal funds for national defense training under Public Laws 812 and 146 for the fiscal year ending June 30, 1942. Additional appropriations will undoubtedly be made to expand these programs during the war emergency.

TABLE II.—FEDERAL APPROPRIATIONS FOR VOCATIONAL EDUCATION FOR NATIONAL DEFENSE UNDER PUBLIC LAWS 812 AND 146

July 1, 1940, to June 30, 1942

Program	Public Law 812	Public Law 146	Total
Number One Program	$26,000,000	$ 52,400,000	$ 78,400,000
Equipment	8,000,000	12,000,000	20,000,000
O.S.Y., Number Four Program	10,000,000	15,000,000	25,000,000
N.Y.A., Number Five Program	7,500,000	10,000,000	17,500,000
E.D.T., Engineering Training	9,000,000	17,500,000	26,500,000
Total	$60,500,000	$106,900,000	$167,400,000

III. ADMINISTRATION OF DEFENSE TRAINING IN PUBLIC SCHOOLS

The program of vocational education for national defense in the public schools is administered through the United States Office of Education of the Federal Security Administration while the various state programs are administered through the state boards of vocational education. Administration of local programs within the various states differs somewhat, although the general practices are similar. In most cases the personnel of the state education department administer and supervise the program, local public school administrators being responsible for local programs. In both state and local administration,

assistant administrators and supervisors are employed from defense funds. State-operated schools are administered in some cases by state offices.

Congress made provisions in Public Law 146 for state and local administrative councils to take care of the ramifications developing through the large number of agencies involved in defense training. The councils of state administrators are composed of administrative representatives from the United States Employment Service, National Youth Administration, and the state board for vocational education, with ex-officio members from the Work Projects Administration, War Production Board, and Social Security Board. The primary functions of these councils in the various states are to co-ordinate, promote, and generally assist in the development of the defense-training program.

The councils of local administrators, composed of local representatives of the board of education, United States Employment Service, and National Youth Administration, serve in a similar capacity within the local communities of the states.

A second advisory agency within local communities is the local advisory committee on the training for national defense. The membership includes representatives of employers, employees, and the defense-training program. This committee assists in the establishing of policies relative to types of courses offered, selection of trainees, and other matters affecting both employers and employees.

The administration of the engineering, science, and management defense training is handled directly by the various colleges and universities that offer courses under this program, all allocations being made through the United States Office of Education. Admission requirements and the nature of the courses are determined by the local school authorities on the basis of local demands and needs.

IV. Teacher Selection, Admission, and Placement Procedures

In the defense-training programs operated by the public schools, teachers employed in the regular day vocational programs have been used to a considerable extent—particularly for supplementary courses in the evenings. Many vocational teachers have been granted leaves of absence or relieved from their regular duties in order to devote full time to defense-training either as instructors, supervisors, or administrators.

It has been necessary in many instances to obtain from industry

skilled tradesmen and journeymen with industry very often relieving some of their key people to teach in defense classes. Where teachers have been obtained direct from industry the problem of teacher training has been rather acute. While most states through the office of the Trade and Industrial Education Teacher Trainer have conducted short, intensive, teacher-training courses and some in-service training for many of these teachers, there is still some question relative to the quality of teaching in some cases. Although many of these teachers from industry are proving most efficient, the pressure of war and around-the-clock training has made it impossible to give them the same amount of teacher training that teachers in regular day vocational-education programs have received.

The selection of trainees for pre-employment courses under the Number One Program involves consideration of several problems. Federal regulations require all trainees to be registered with the United States Employment Service and, where available, persons from W.P.A. rolls may be assigned up to 50 per cent of the total class roll. However, the final selection of all trainees is a responsibility of the local training-program administrators even though the U.S.E.S., W.P.A., or other agencies may recommend persons for training. In certain centers trainees are selected by industry prior to training, which may work to a distinct advantage in that the trainees are likely to obtain employment in the industry after training and the industry, on the other hand, feels a greater responsibility and a closer relationship to the trainee. In other centers representatives of employers and employees acting as a committee advise in the selection of trainees—particularly is this a function often performed by the local advisory committee on training for national defense. Aptitude, intelligence, and trade tests are used to some advantage although the interview is by far the most common practice used in selection.

The problem of selection in supplementary courses is largely taken care of since the courses are limited to persons who are already employed in defense or war industries.

The placement of trainees from pre-employment classes is chiefly a responsibility of the United States Employment Service, the exact procedure varying within each state. Where school authorities have close contact with industry, many trainees are placed by the school doing the training. The condition whereby placements are the entire responsibility of the U.S.E.S. frequently has worked to a distinct dis-

advantage. It has encouraged persons who are responsible for training to be somewhat lax in keeping in touch with industries and the type of training needed; while on the other hand, placement authorities have passed on to training centers the failure to place certain trainees, with the implication that the training is not effective.

V. Developments in Training

All vocational education for national defense programs have been set up with a view to providing short, intensive training in specific jobs or operations; therefore, training courses are confined to rather narrow fields, such as drill-press operators, lathe operators, riveters, welders, marine electricians, inspectors, etc.

Training on real jobs is provided wherever possible with the training outline set up to meet specific requirements of particular occupations. Many states have accomplished this to some extent by the production of small tools and equipment, such as milling cutters, vises, wrenches, punches, calipers, etc. Defense-training centers have, in many instances, organized their training program so that production procedures and practices are carried out. For example, in the Pearl River (New York) Vocational High School, an excellent training program has been set up through the production of small bench drill presses whereby trainees are given an opportunity to work on various machines and perform operations similar to those found in industry and at the same time produce a valuable piece of equipment. Training facilities in many vocational centers have been greatly improved and increased through the allocation of $20,000,000 for the purchase and rental of equipment during the period of July 1, 1940, to June 30, 1942.

Another advantageous development has been the preparation of instructional material and visual aids. Many states have prepared excellent course outlines, charts, moving pictures, and other teaching aids which are proving of considerable value both in improving the general efficiency of the defense-training program and for the development of vocational education in the future. Instructional outlines have been prepared on aircraft fuselage accessories, ship fitting practice, marine electricity, marine pipe fitting, shipyard assembly and welding, elementary ship construction, ordnance inspection, hand processes in sheet metal work, blueprint reading, shop mathematics, machine and bench work, aircraft inspection, aircraft fabrication, electric motor control, and fundamentals of electronic control.

With the indication that there would be a shortage of men available for training and employment in war industries with the entrance of the United States into war, a junior training program was inaugurated in January, 1942. This phase of the Number One Program provided training for selected high-school Seniors who will complete their high-school education in June, 1942, and will be of employable age. The training is pre-employment in nature and consists of fifteen hours per week given in late afternoons and Saturday mornings. Local directors, supervisors, and instructors, have shown considerable enthusiasm over the general ability of trainees included in this program.

The problem of conversion training is becoming important with the curtailment of industries not closely allied to the war effort. One of the major tasks lying ahead for the national defense vocational-training program is to train thousands of peace-time workers for employment in war industries. While some workers converted to war production will not require training, it is anticipated that a large percentage will—particularly salesmen and employees in garment, textile, and novelty industries. In New York City where there has been a general curtailment in the building trades, it has been found that electricians and plumbers with a comparatively small amount of conversion training can be employed in shipyards as marine electricians and marine plumbers. Persons who already have common skills in certain trades can easily be converted to other trades where the tools used and the skills required are similar.

While it is impossible at the time of preparing this material to state definitely the extent to which women will be trained and placed in war industries, it is apparent that with the continuation of the war more women will be employed. Industry is still somewhat reluctant to employ women until there is a definite shortage of men who can be permanently employed; however, the number of women being trained for war industries has greatly increased since the entry of the United States into war. Some of the courses enrolling women are: acetylene welding, aircraft assembly, aircraft fabrication, aircraft inspection, aircraft riveting, arc welding, blueprint reading, elementary electronics, elementary metallurgy, industrial chemistry, lens grinding, machine shop, ordnance inspection, radio communications, mechanical and electrical assembly, sheet metal work, shop sketching and tracing, and soldering. Women can perform many of the skills and operations required in war industries just as efficiently as men. With the call of

more men into the armed forces, it is to be expected that more and more women will take their place in war industries.

VI. Defense Training Under the National Youth Administration

Under the provisions of the National Youth Administration Appropriation Act of 1942, Congress made available $60,000,000 for a youth work defense program which has provided for the employment of youth for 160 hours per month on work projects. It is from this program that trainees are obtained for the N.Y.A. Number Five Program administered by the public schools. With a sharper defining of defense training, youth employed on work projects such as shipbuilding, machine shops, aviation, welding, sheet metal, etc., receive supplementary training in classes conducted on the Number One Program. Recently there has been a general curtailment of N.Y.A. projects not considered essential to national defense according to the definition set forth in Public Law 146.

VII. Training Within Industry

A training-within-industry branch of the Office of Production Management was established to assist defense workers and war industries in general in solving the numerous problems confronting them in connection with the training of new workers and the development of proper supervision. The work of this branch is confined to programs of off-the-job training, upgrading, supervision, and the training of production operators. Since the discontinuance of the Office of Production Management, this program is now conducted by the War Manpower Commission.

It has long been recognized that not all skilled craftsmen or capable employees have the necessary aptitudes, traits, or personality to become successful supervisors or foremen. For this reason, defense-training courses have been set up by the War Manpower Commission, and in many cases, in co-operation with the Number One Program whereby selected employees in war industries receive leadmen, foremanship, and supervising training. This training is in most respects similar to that which has long been conducted by regular vocational-industrial education programs under the title of "foremanship training." Topics covered under this type of training include improving

supervisory practices, expanding managerial organization, and handling of help.

While the training-within-industry program may appear to overlap the training offered in other defense-training programs, particularly the Number One Program, it should be noted that in this program the training is done largely within industry. In this way, many persons receive training in war industries who are unable to attend regular defense-training classes conducted outside of the plant.

VIII. Defense Training Under the W.P.A. and C.C.C.

Although the Work Projects Administration does not maintain vocational schools, persons enrolled in this organization are receiving vocational training through certain projects. A program for the training of these employees for manual occupations in war industries has been developed through the co-operation of the War Manpower Commission and the Number One Defense-training Program. The program consists of two phases—in-plant training and auxiliary training. Federal agencies assist local authorities in providing placement service on behalf of these trainees.

The Civilian Conservation Corps, now abolished, through its training program in camps, specialized training schools, and the operation of central motor repair shops provided for activities which contributed to defense training. While the training received in camps was confined largely to fundamental skills, it was of considerable value in developing the abilities and confidence of trainees so that they could secure employment in war industries.

IX. The Future of Vocational Education

To predict the effect of national defense training upon the future involves some speculation. However, it is desirable to consider some of the more significant aspects of the program arising out of the present emergency and their effect upon future programs of vocational education. A wisely formulated plan of vocational education to be put into operation after the war will be of real value in facilitating those adjustments which the transition to peace will require.

The expanding facilities which have been created as a result of the establishing of new vocational shops and the purchase of additional equipment will undoubtedly result in a correspondingly expanded vocational program as compared to the program prior to the present

emergency. Thousands of schools throughout the country have received federal funds for the purchase of new equipment and tools and for the establishment of new vocational shops.

Many educators have experienced a new contact with vocational education as a result of the defense-training program and have realized the value and place of such training. Principals and superintendents of schools are showing a keener interest in vocational education, and it is natural to assume that these educators will desire to continue vocational-education programs in their schools in the future.

Another problem which very definitely faces vocational education in the future is that of rehabilitating and retraining both civilians employed in war industries and men returning to civilian life from the armed services. Millions of people, who are at present employed in war industries, will have to be retrained for peace-time occupations. The personnel of the armed forces will also need vocational training —particularly those who may be physically handicapped. Vocational rehabilitation undoubtedly will play an important role in the future.

It will also be necessary to provide appropriate and varied curriculums in the high schools and post-high-school institutions for a greater number of older youth. This training will unquestionably be provided for through technical institutions, district or regional trade schools, or expansion of present vocational training centers.

Indications also point to an expanded vocational-education program resulting from the enormous task of rebuilding war-torn countries. Many industries will be devoted to this activity. Curtailment of the production of many articles for civilian use in order to facilitate the present war-production program will certainly create extended post-war markets for the development of which an adequate supply of vocationally trained persons will be required. The American school system, by carefully developing its plans for a vitalized program of vocational education, can be expected to play an important part in helping to meet these situations.

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SECTION III

TYPES OF VOCATIONAL EDUCATION

CHAPTER XII

AGRICULTURAL EDUCATION

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I. THE NEED FOR AGRICULTURAL EDUCATION

The major occupation of rural society is agriculture. In fact, agriculture is one of America's basic industries, since it is the source of supply of the primary needs (food and clothing) of mankind. According to the 1940 census, there are 6,096,799 farmers in the United States. The operative life of farmers as farmers is about 37 years, varying from about 32 years in California to about 40 years in Maine. By dividing the number of farmers by the average operative life of the farmer, we find that 164,778 new farmers enter or need to enter farming each year if the number of farmers is to remain constant. Farmers' equity in their farms has steadily decreased during the last century. In 1880, the farmers' equity in their farms was 62 per cent, and by 1935 it had decreased to 39 per cent. In 55 years the proportion of farm lands and buildings in the nation actually owned by the farm operator fell from nearly two-thirds to less than two-fifths.

Two things stand in the way of increased economic security and the well-being of people on farms: price parity and the individual efficiency of farmers. One needs only to compare the yields of crops and the production per animal unit between farms in the same community, with comparable soil and other factors, to see the significance of individual efficiency on the well-being of farmers. Today, more than ever before, we are realizing the need for increased efficiency on farms. Farmers are asked to increase the production of food to feed ourselves and those fighting on the side of the democracies. America is cognizant of the fact that food will help to win the war and write an honorable peace.

Agriculture, as an industry, is almost as important to the village as to the farm. Village prosperity goes up and down with farm prosperity. From 1929 to 1932 retail sales in places under 10,000 popu-

lation dropped 49.5 per cent and the income of farmers dropped 58.7 per cent. The success of agriculture also profoundly affects urban society, not only in the production of raw materials and the buying of urban goods, but because cities in the United States fall approximately 20 per cent short of producing enough children to maintain their population. Rural America produces the children for all of America. New York County, New York, has an index of natural increase of less than 60, while many counties in the Appalachian region have an index of natural increase of more than 200. One county in Kentucky has an index of natural increase of 261.

Apparently, agriculture must be taught below the college level if the teaching is to influence greatly the people who live in the rural communities. Young men who go to college do not return in very great numbers to the rural areas. A recent survey directed by Dr. O. E. Baker disclosed that whereas over three-fourths of the young men in Blackford County, Indiana, are high-school graduates, only 4 per cent of the men have attended college. Many have gone to college, but few have returned to the farms. The sixteen southeastern states from Delaware to Texas have more than half of the farmers in the United States. In these states, not over 7 per cent of the people enter college. Therefore, if systematic training for the major occupation of rural society is to be provided present and future generations, it must be provided by schools of less than college level.

II. The Development of Agricultural Education

The term agricultural education, in its all-inclusive sense, includes all organized effort to direct the learning of people whose primary vocation is agriculture, whether this learning activity is directed by the schools or by agencies other than schools. Such agencies as the agricultural colleges, the agricultural extension service, the Farm Security Administration, and other services of the United States Department of Agriculture, as well as farm papers and radio stations, provide programs designed to influence agricultural practices and the well-being of farm people. The programs of the above-mentioned agencies are not integral parts of the programs operated by the public schools.

The term agricultural education, as used in this chapter, includes the program of instruction carried on as an integral part of the total program of the public secondary schools of America. Agricultural edu-

cation is one phase of the total program of vocational education, the purpose of agricultural education being to provide functional instruction in agriculture for persons who are farming or who are preparing to farm.

Agricultural education is administered by the United States Office of Education and, in the states, by state boards for vocational education which, in two-thirds of the states, are identical with the state boards of education. Local programs of agricultural education are administered by local boards of education. Teachers are hired to carry out the agricultural-education service in the same manner that any other teachers are employed to carry out any phase of the total program of secondary education.

Agriculture, as a school project, is not new. As early as 1774 a society for the promotion of agriculture in the schools was established at Philadelphia. By 1840 several states, including Massachusetts, Maine, Connecticut, New York, and Michigan, were encouraging agricultural instruction. By 1900 Minnesota had at least ten publicly supported agricultural high schools. After 1900 the number of agricultural high schools and high schools offering agriculture increased rapidly, several states granting subsidy. In 1913 about 2,300 high schools in the states were reported as teaching agriculture.

The federally aided program of vocational education in agriculture, initiated with the Smith-Hughes Act in 1917, greatly increased the amount of instruction in agriculture, as may be seen from the data presented in Table I.

TABLE I.—NUMBER OF DEPARTMENTS OF VOCATIONAL AGRICULTURE FEDERALLY AIDED AND ENROLMENTS IN THESE DEPARTMENTS IN SPECIFIED YEARS

1918 TO 1941

Year Ending June 30	Number of All-day Departments of Vocational Agriculture	Total Enrolments in Agriculture	Enrolment in All-day Classes	Enrolment in Part-time Classes	Enrolment in Evening-School Classes
1918.....	609	15,450	15,450	....	....
1920.....	1,375	31,301	31,301	....	....
1925.....	2,778	94,765	74,960	2,394	16,694
1930.....	3,905	193,325	123,685	4,164	60,462
1935.....	5,193	329,367	194,632	23,932	110,177
1940.....	8,307	584,133	318,223	62,489	192,246
1941.....	8,779	589,146	330,123	51,824	197,508

III. Aims and Objectives in Vocational Education in Agriculture

When is one fitted for useful employment in the work of the farm? The answer to this question involves consideration of the aim of vocational agriculture and the educational objectives in vocational agriculture. It sets the course of study in agriculture, including the manner or design for attaining the objectives.

The aim of vocational agriculture is to train present and prospective farmers for proficiency in farming. In the language of a committee appointed by the United States Office of Education:

> The attainment of the aim also includes the significant relationship of the farm to the farm home, as well as responsibility in civic and public welfare and co-operative effort for the common good. It embraces instruction in the interdependence of farming and industry closely related to farm and home, as well as the relationships of farming as a business to other industrial pursuits. It requires training in leadership and a willingness to follow constructive leadership.[1]

The major objectives of vocational education in agriculture, as stated by the committee on objectives referred to in the preceding paragraph, are to develop the effective ability to:

1. Make a beginning and advance in farming.
2. Produce farm commodities efficiently.
3. Market farm products advantageously.
4. Conserve soil and other natural resources.
5. Manage a farm business.
6. Maintain a favorable environment.

It may be seen from these statements of objectives that vocational education in agriculture is by no means limited to production. Problems of economic and managerial nature, including agricultural economics, land management, marketing, and soil conservation, are much to the fore. Agriculture is recognized as a science as well as an art. Also, objective number 6 makes clear that vocational agriculture is concerned with contributing toward a favorable social and economic environment for farm people as an essential factor in an agricultural program. It recognizes that the farm and the farm home are intimately tied together—that the maintenance of desirable farm homes and sur-

[1] *Educational Objectives in Vocational Education, 1940.* United States Office of Education, Vocational Division, Monograph No. 21, 1940. Washington: Superintendent of Documents, 1940.

roundings is essential to, and a part of, proficiency in farming. Attainment of several of the objectives implies development of the abilities to co-operate for the common good in the solution of the problems affecting agriculture. The objectives also recognize the increasing need for the development of constructive rural leadership and an intelligent "followership"; they recognize the desirability of the farmers' understanding the programs and policies affecting agriculture.

IV. Groups Reached

Three groups of people are reached by instruction in vocational agriculture; the all-day group, made up of boys (and only 825 girls in 1940) in high school; the part-time group, made up of young men, roughly 16 to 24 years old, out of school with various amounts of previous schooling who are not established in farming in a managerial capacity; the evening-school group, made up of men (and a few women) already established in farming. Enrolment in the all-day classes in agriculture is somewhat larger than the combined enrolment in part-time and evening classes. As may be seen from Table I the part-time enrolment, although very much lower than either the all-day or the evening-school enrolment, has grown rapidly.

V. Courses of Instruction and the Curriculum

For the most part, programs of instruction in agriculture are based on the needs of the individuals in the course and on the communities in which they live. The method of building courses in vocational agriculture varies from state to state, each state being free to determine its own manner of working out courses and of teaching. Usually, in course building, basic facts are collected relative to farms and the farm practices followed, the agriculture in the community, the individual students, and student-family relationships. The hypothesis that the training program should be centered around the student and the local community problems is borne out by investigations which seem to show that the majority of those who farm do so in the communities where they received their training. Perhaps as many as 80 per cent of the boys who farm remain in the high-school area where they receive their training. Lattig[2] reports a state-wide study recently completed in Utah covering the years 1918-1938, which shows that 85 per cent of

[2] H. E. Lattig, "Farm Youth as a Vantage Point," *Agricultural Education Magazine*, XIII (May, 1941), 214-15.

all former all-day students of vocational agriculture remained in the state and that 79.6 per cent remained in the high-school area where they received their training. Roberts,[3] in a study of boys and young men who had taken vocational agriculture in Kentucky high schools, found that of the boys who became farmers, only 18.1 per cent migrated from the community in which they went to high school, and the median distance of those migrating and farming was 35 miles. In this same study, Roberts found that while only 80 per cent of the fathers (or guardians) of the boys who had taken vocational agriculture were farmers, 96 per cent of the young men who have entered farming were sons of farmers. Beard,[4] in a study of the occupations of former students of vocational agriculture, found that of 418 village boys who had taken vocational agriculture in South Dakota, only 14.8 per cent were engaged in farming or work related to farming; in fact, only two young men were farming.

The typical all-day course in vocational agriculture is four years in length, though there are many three-year courses and some two-year courses; the evening-school course is usually 12 to 15 meetings in length, plus an occasional seasonal meeting; the part-time course is usually 15 to 30 meetings in length, plus occasional meetings to take care of timely needs or for recreational and social purposes.

Vocational agriculture takes only a portion of the students' time. It is fairly common for the student to carry three other subjects while taking vocational agriculture. The typical high-school graduate, having studied vocational agriculture, will have three or four credits in English, a similar number in the social sciences, and two or more in mathematics. Vocational agriculture is an integral part of the total program of public education. Earning a living does not constitute the sum total of the activities of a person in a democratic society, but it does represent a most significant portion of one's activities and it influences markedly one's proficiency in other desirable life activities. The following program of studies is representative of the offerings in the upper four years of rural high schools in which vocational agriculture is taught.

[3] Martin Roberts, "Migration and Occupational Distribution of Vocational Agriculture Boys after Leaving School." Master's thesis, Department of Agriculture, University of Kentucky.

[4] W. P. Beard, "Occupational Instruction of Former Students in Vocational Agriculture in South Dakota." Independent Study. Pierre, South Dakota: State Department of Public Instruction, 1932.

TYPICAL PROGRAM OF STUDIES FOR A RURAL SECONDARY SCHOOL

First Year

Subject	Periods Per Wk.
English I	5
Composition	
Literature	
Social Studies I	5
Citizenship or	
Early European History	
Elect two	
Mathematics I	5
Algebra I	
Science I	5
General Science	
Agriculture I	10
Home Economics I	10

Second Year

Subject	Periods Per Wk.
English II	5
Composition	
Literature	
Social Studies II	5
World History or	
Modern European History	
Elect two	
Mathematics II	5
Algebra II or	
Algebra ½ and	
Arithmetic ½	
Science II	7
Biology	
Agriculture II	10
Home Economics	10

Third Year

Subject	Periods Per Wk.
English III	5
Composition	
Literature	
Social Studies III	5
American History	
Elect two	
Mathematics III	5
Plane Geometry	
Foreign Language I	5
Latin or	
Modern Language	
Agriculture III	10
Home Economics	10
Science	7
Typewriting	10
Shorthand	5

Fourth Year

Subject	Periods Per Wk.
English IV	5
Composition	
Literature	
Social Studies IV	5
Problems of Democracy	
Advanced Civics ½ and	
Economics or Sociology ½	
Elect two	
Social Studies	5
Commercial Geography or	
Commercial Geography ½ and	
Physical Geography ½	
Foreign Language II	5
Latin or	
Modern Language	
Agriculture IV	10
Home Economics	10
Science	7
Bookkeeping and Accounting	10
Shorthand and Office Practice	5

The cross-section plan of organization for courses in vocational agriculture is being adopted by an increasing number of states each

year although the courses of several states consist of such divisions as a year of farm crops, a year of farm animals, a year of agricultural economics, a year of farm mechanics, and so on. In the cross-section plan the course *cuts across* all divisions of agricultural subject matter, to meet the needs of the group. Deyoe [5] lists three major premises of significance to the theory of cross-sectional course building. They are:

1. The cross-sectional plan provides for flexibility in meeting student needs and interests as these are associated with the programs of supervised farm practice and other activities in vocational agriculture.
2. It permits a gradation and distribution of course materials in keeping with successive levels of understanding as each boy gains maturity and experience.
3. It makes possible the organization of activities which approximate a "farm-as-a-whole" approach to the study of agriculture from the start. Presumably by learning to farm "the way proficient farmers farm" the boy gains an integrated understanding of the complex interrelationships of the activities in a well-planned farm business.

The following course layout by years is typical of cross-section courses. This is an actual course layout for a Kentucky school.

Agriculture I	Agriculture II
Corn	Tobacco
Hogs	Dairy
Poultry	Hay
Farm Shop	Farm Shop
Individual Problems	Individual Problems
Supervised Practice	Supervised Practice

Agriculture III	Agriculture IV
Soils	Farm Management
Sheep	Feeding Hogs, Dairy Cattle, and Workstock
Pastures	Home Beautification and Improvement (including shop)
Farm Shop	Individual Problems
Individual Problems	Supervised Practice
Supervised Practice	

[5] G. P. Deyoe, "The Cross Sectional Course in Theory and Practice," *Agricultural Education Magazine*, XII (October, 1939), 64.

VI. Farm Shop

Courses in farm shop or farm mechanics as a part of the program in vocational agriculture are common in all states. American farms have become the most mechanized farms in the world. Also, recently, farm shop in the departments of vocational agriculture has received much impetus because of the out-of-school youth defense-training courses, which, for the most part, have been under the supervision of the teachers of vocational agriculture. Thousands of farm shops have become well equipped through the grants for defense training.

VII. Supervised Farm Practice

Farm practice is an integral part of the total learning experiences of each student in vocational agriculture. Farm-practice experiences serve both as a feeder for problems to be solved in the classroom and as an opportunity for carrying out classroom decisions. Dr. A. M. Field of the University of Minnesota expressed the significance of supervised farm practice when he said, "Farm practice is the beginning, the core, and the final application of instruction in vocational agriculture."

Year by year the supervised farm practice, or the supervised farming programs, as they may be called, have become more comprehensive in scope and more educational. In the early years, the practice was usually a one-project affair unrelated to any teaching objective there may have been. For example, the student had a project in corn or in hogs or in poultry, perhaps wholly on the basis of convenience. The modern supervised farm-practice program is much broader and is selected and evaluated with reference to the attainment of the educational objectives. The good program today often consists of three, four, or more projects, in addition to what is known as supplementary practice. The accompanying program of a boy who entered vocational agriculture at the beginning of his second year in high school illustrates how extensive in scope a program may be.

The projects need not be limited to productive enterprises. The farm-practice program of the student often includes one or more improvement projects in such fields as home beautification, an agricultural library, reclaiming an eroded field, building and equipping a home-farm shop. A standard farm-practice program for a student in

Four-Year History of Farming Program of a Kentucky High-School Boy

1937-38	1938-39	1939-40	1940-41 (out of school)
2 Sow and litter	5 Sow and litter (Spring)	18 Sow and litter (Spring)	23 Sow and litter (Spring)
1 Baby beef	7 Sow and litter (Fall)	10 Sow and litter (Fall)	2 Sow and litter (Fall)
8 Acres Corn	1 Baby beef	2 Baby beef	1 Baby beef
Labor income $470	1 Breeding beef heifer	4 Breeding beef heifers	12 Breeding beef heifers
	200 Baby chicks	200 Baby chicks	200 Baby chicks
	16 Acres corn	310 Laying hens	300 Laying hens
	24 Acres barley	2 Breeding sheep	8 Breeding sheep
	Labor income $1,496	1 Feeding lamb	42 Acres corn
		24 Acres corn	30 Acres barley
		30 Acres barley	8 Acres Atlas Sorgo
		3 Acres Atlas Sorgo	12 Acres oats
		3 Acres soybeans	1 Acre potatoes
		½ Acre potatoes	Labor income $3,040
		Labor income $3,565	

many local departments of vocational agriculture is a cash crop, one or more animal projects, one or more projects to provide feed for these animals, and some supplementary practice. The supplementary practice, as the name implies, is practice to *supplement* that of the projects. This often makes it possible to get practice on the home farm in almost everything taken up in the classroom. Thus, the point of view of the teacher in the classroom is to influence practice outside the classroom. It is expected that "what is taught in school will be used outside the school."

In the better departments of vocational agriculture emphasis is placed on developing supervised farm-practice programs that the students may continue and expand throughout their high-school years. Such programs supply some equity in farming and often serve as a nucleus in the permanent farming program. Studies seem to prove that boys with large supervised-practice programs are much more likely to farm than boys with small programs. It is possible, of course, that the size of the home farms and the ability of the parents to give financial assistance have been determining factors.

To be successful in supervised farm practice with the all-day group and with the part-time group, teachers of vocational agriculture have been obliged to educate the parents. This has been necessary in order to secure for the students an adequate practice program and to have the parents share in the responsibility of education of their sons. These parent-education programs vary widely, from individual conferences with the parents to a series of four or more meetings a year with the parents as a group to discuss with them the common problems involved. The following list of the characteristics of a good supervised farm-practice program, as formulated in Kentucky, will make clear the desirability of parent-education in securing good practice programs:

1. Leads toward establishment in farming (implies long-term program).
2. Is adapted to the home farm set-up.
3. Must provide opportunity for self-direction.
4. Provides opportunity for carrying out significant improved practices.
5. Must be a program the boy or young man will like to carry.
6. Makes the boy less of a burden to his family.
7. Can be carried out (time, finance, ability, facilities).
8. Includes enterprise significant to success in the locality.
9. Includes supplementary practice.

VIII. Future Farmers of America

The Future Farmers of America is a national self-supporting organization of students in vocational agriculture. (A similar, but separate, organization exists for Negro students known as the New Farmers of America). A member may retain his active membership for three years after leaving school.

The Future Farmers of America, or "F.F.A." as it is commonly known, was organized in 1928, and its membership is now (1941) 240,972 in 7,340 local chapters. Chapters have been established in every state and in Hawaii and Puerto Rico.

The organization is a definite part of the program of vocational agriculture in the public schools and is carried on under the supervision of the local teachers of vocational agriculture as advisers, the state boards of education, and the United States Office of Education.

Any male student under 25 years old who is regularly enrolled in an all-day, day-unit, or part-time class in vocational agriculture is

entitled to become an active member of any F.F.A. chapter upon receiving a majority vote of the chapter membership at any meeting of the chapter. There are four degrees or grades of active membership, depending on advancement and achievement: Green Hand, Future Farmer, State Farmer, and American Farmer.

The aim and purposes of the organization, as stated in the 1940 edition of the Future Farmer Manual, are as follows:

The primary aim of the Future Farmers of America is the development of agricultural leadership, co-operation, and citizenship. The specific purposes for which this organization was formed are as follows:

1. To develop competent, aggressive, rural, and agricultural leadership.
2. To create and nurture a love of country life.
3. To strengthen the confidence of farm boys and young men in themselves and their work.
4. To create more interest in the intelligent choice of farming occupations.
5. To encourage members in the development of individual farming programs and establishment in farming.
6. To encourage members to improve the farm home and its surroundings.
7. To participate in worthy undertakings for the improvement of agriculture.
8. To develop character, train for useful citizenship, and foster patriotism.
9. To participate in co-operative effort.
10. To encourage and practice thrift.
11. To encourage improvement in scholarship.
12. To provide and encourage the development of organized rural recreational activities.

The purposes are achieved through activity programs or programs of work—national, state, and local. Active participation is the keynote. Members learn through active participation how to conduct and take part in a public meeting, to speak in public, to co-operate, to solve their own problems, and to assume civic responsibility.

IX. Effectiveness of Vocational Education in Agriculture

Dr. H. E. Lattig[6] of Idaho recently examined 24 studies covering over 46,000 cases for the country as a whole, to determine how many young men enter farming after having had one or more years of training in all-day classes in vocational agriculture. The studies were made over a period of ten or twelve years. Of these 46,000-odd boys, over

[6] H. E. Lattig, "Farm Youth as a Vantage Point," *Agricultural Education Magazine,* XIII (May, 1941), 214-15.

24,000, or approximately 52 per cent, were engaged in farming at the time the studies were made. These same studies indicated that approximately 6 per cent of the students enter occupations related to farming and that around 5 per cent enrol in colleges of agriculture after leaving high school. Thus, it seems that between 60 and 65 per cent of the boys who take vocational agriculture in high school later make direct use of their agricultural education.

If the above figures represent reasonably accurate estimates for the country as a whole, 35 to 40 per cent of the boys either cannot or will not put the training to direct use in the vocation they are to follow. Some of these boys—how many we do not know—discover aptitudes for vocations not related to farming and enter these vocations. There is reason to believe that some of these young men would like to farm but cannot because of lack of financial resources. Also, some of these young men have taken vocational agriculture because the high school offered them no alternative. Not all of the boys who are born on the farm should stay there. The birth rate in the farm population is 40 to 50 per cent higher than that needed to maintain the farm population.

There are data enough on hand to give us a fair idea as to what boys will become farmers and what boys will not become farmers. For example, there is much evidence to show that a boy coming from a rented place is far less likely to farm than one who comes from a parent-owned farm. Studies indicate that unless a boy lives on a farm while studying vocational agriculture, the chances are against his entering farming. Apparently, the chances of town boys becoming farmers are about one in nine or ten. Where the boys do not live on farms or where they live on very small farms or on rented farms, opportunities are less for father-and-son partnerships in farming. Such a partnership is one means through which many young men today are getting a start in farming. There seems to be a trend in this practice, while hired men are becoming fewer in number.

X. Research in Agriculture Education

The continuous development of vocational education in agriculture depends in no small degree on the continuous study of its problems. In almost every teacher-education department one or more persons give all or part of their time to research. In some institutions certain people devote all of their time to research. They become research specialists. In other institutions all, or nearly all, of the teacher trainers devote a

part of their time to research each year or they alternate research work with preservice or in-service training of teachers.

The agriculture section of the American Vocational Association has a research committee of seven members, four of the members being regional representatives and two of them representing the United States at large. Each of the four regions of the United States selects one representative. Each of the regions also has its research committee, all of the twelve states in the region being represented on the committee. In the United States Office of Education one man fills the position of research specialist in agricultural education and is a member of the research committee of the agriculture section of the American Vocational Association. This committee has made two summaries of studies in agricultural education in the United States. The first summary—an annotated bibliography of 373 studies with a general evaluation—was published in 1935 by the Office of Education, as Vocational Bulletin No. 180. The second summary of the same general plan, covering 384 studies, has been sent to the Office of Education for publication.

XI. Need for Expansion of Vocational Agriculture

In the opening paragraph of this chapter it was pointed out that around 165,000 new farmers are needed each year in the United States. If we assume that all farm operators should receive an average of three years of vocational agriculture on the all-day level, there would be needed in the all-day classes 495,000 boys if all of them became farm operators. If only 60 per cent of them became farm operators, some 825,000 would need to be enrolled in the all-day classes. This is two and one-half times the present enrolment.

The fact that farm boys who drop out of school with little or no vocational training are very likely to become farmers plus the fact that those young men who have had the all-day training need the part-time training, warrants the conclusion that the enrolment in the part-time classes in agriculture should be at least as large as the enrolment in the all-day classes. This would call for a tremendous expansion in part-time work. If only one-tenth of the farm operators were enrolled in evening classes each year, the enrolment would be 609,600.

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CHAPTER XIII

BUSINESS EDUCATION— CLERICAL AND DISTRIBUTIVE

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I. INTRODUCTION

Business education is an educational stepchild in the family of secondary-school departments, without affectionate nurturing by either parent—general education or vocational training. It is not acceptable for college entrance, except when it slips into the fold of creditable subjects through the back door of "free electives." It is not directly subsidizable under the many vocational-education acts except the most recent one (George-Deen), and under that one only in the field of training for distributive occupations which, until this act became operative, was practically nonexistent.

Business education began with bookkeeping over a century ago, added typewriting when the typewriter became practical for office use, and soon afterwards took on shorthand to complete the trinity of commercial subjects that have monopolized its program through the years down to the present day.

The private business school pioneered in this field. The high school imitated its program when commercial courses were first organized in the public schools. Later the junior high school patterned its program after that of the four-year school. The junior college now is duplicating, if not taking over completely, the program of the secondary school.

Every authentic survey in recent years has shown, expressly or impliedly, that business education has not kept pace with occupational developments, that traditional ruts quite as deep as those of certain academic fields are preventing progress in new and more promising directions, that little is done to insure for commercial courses students who have what it takes to profit from them, that placements in line with training are relatively few, and that necessary occupational read-

justments must be made without benefit of pre-employment training of a kind which is designed to afford essential background of understanding and breadth of technical competency.

That satisfactory placement and effective occupational adjustments too rarely follow training in this field should occasion no surprise when it is realized that approximately 85 per cent of office work is non-bookkeeping, nonstenographic, and nontyping, but that about 85 per cent of enrolments for vocational business courses are for shorthand, bookkeeping, and typewriting. But even these subjects are not taught on a defensible vocational-training basis.

A considerable preponderance of high-school graduates and drop-outs (including commerce students) go into distributive occupations of the selling or service types. Yet, little if anything has been done to prepare them for such jobs. Small wonder that a prolonged period of floundering precedes anything like permanent occupational adjustment —floundering which in some degree may be inevitable and to some extent beneficial, but in no sense flattering to business education.

II. General Confusion

1. As to Objectives

There is much confusion as to the real objectives of various phases of business education and the proper grade placement of each. There is no clear recognition of the essential differences between the pre-vocational and vocational courses; between vocational courses and consumer courses; between background business courses and consumer courses; between exploratory courses and try-out courses; or between courses that, though they are dealt with in the commercial department really are *general* education, and those in this department which are distinctly *vocational training*. There is confusion as to the proper relationships among what are called the *social-business* subjects (commercial geography, business law, business economics, and business management), vocational-skill subjects, and consumer courses.

The social-business subjects were first offered as vocational training around the turn of the century. They were regarded as essential elements in a truly vocational-training program. Their materials were drawn from the field of business. Their function was to insure some degree of understanding of the occupational environment in which commercial graduates would work—a partial guarantee that business train-

ing would not prepare for dead-end jobs only and thus cause stranding on a clerical level below that which for economic reasons should be made the real objective of a business career. Through the years there has been little significant change in either the aims or the content of these subjects, but to a large degree they have been the neglected courses of the business program. Relatively few students have enrolled for them; and of those who have, no small proportion have been academic students in need of credits that they would supply. Thus, it may be seen that these social-business subjects are as distinctly *vocational* as are the *skill* subjects, and probably rightly so.

The vocational-skill subjects (office practice, advanced shorthand, advanced bookkeeping, and advanced typewriting) were set up to serve the purposes of vocational training. Their aims and content have changed but little. While teaching methods used have not squared with sound principles of vocational training, and while achievement standards are at variance with actual office production standards, these courses have maintained their places in the secondary-school program because of their vocational aims and the partial achievement of them. Where they are well taught from a vocational-training point of view, to the right kind of students, with proper attention to the social-business subjects for background, they can be among the most effective vocational-training courses offered in our public schools. But, of course, the qualifications in this statement are most significant.

No longer should there be confusion as to the places of the social-business and vocational-skill subjects in a program of business training.

2. Prevocational Business Training

A sharp distinction should be made between *prevocational* and *vocational* training. At present none is made. First-year bookkeeping, shorthand, and typewriting courses are considered vocational. They really are prevocational. No student should be regarded as a commercial student until he has passed the try-out stage and demonstrated that he has what it takes to pursue real vocational courses in one of these fields, or in some other of the several that should be included—clerical, selling, etc. And yet, even the boy who enrols for business arithmetic, junior business training, or business writing at the ninth-grade level becomes thereby a commercial student. Until the fact that vocational training should be given only after adequate guidance and on the basis of suitable exploratory courses is established in principle

and implemented in practice, the effectiveness of vocational business training will remain at its present very low level.

3. Responsibility for Present Conditions

That a chaotic condition exists in the field of business education is clear. Who is responsible for this condition? No one group alone, but several influential groups may be held responsible: commercial teachers, for not vigorously attacking and resolving major issues to set the stage for needed reorganization and for not striving more sincerely and successfully for the achievement of that unity of purpose among business educators which will command the respect of educators and the public in general; school administrators, for unquestioningly using this department as a "dumping ground" for the misfits, or for failing to challenge those who contend that it is the happy hunting ground for all and sundry; superintendents, for letting the evidence piled up by numerous surveys and inquiries remain unstudied and who neglect to challenge expenditures for business training for such large numbers who should not have it; state departments (all but six of them), for not taking steps to see that supervision and direction and intelligent cooperation are made available for this largest field of specialized training; the federal Office of Education, for rendering relatively little assistance in the proper development of business-training programs outside the extension training field, despite the mandatory provisions of the parent vocational-education act and later acts; leaders in the vocational-education movement, state and national, for ignoring business education until the George-Deen Act with some of its appropriation earmarked for distributive education came along; parents, for insisting upon white-collar job training for their offspring without regard for their interests, aptitudes, and abilities; employers, for contending that their clerical work is different from that of all other offices, and that little can be done for their prospective employees on a pre-employment basis except to "ground them in fundamentals."

Until most of these come to a full realization of the importance and magnitude of the job of appraising and reorganizing basic programs in this field of educational service, little headway in that direction can be made. The federal Office of Education is in the best position to make an attack on this problem under existing law and by reason of its prestige and strategic position in relation to state departments of education and even smaller units of educational control.

III. Essential Reorganization

As a point of departure in any attempt to bring about essential reorganization in this field its complexity must be fully realized. It is not a subject; nor is it a group of subjects. It is not confined to one grade level, or even to a few levels. It ranges over them all from the first of the junior high school to the last of the university graduate school. Its objectives are many and exceedingly diverse. Its materials are extensive and gathered from far-flung sources. But in general outline its fundamental pattern should not be too difficult to construct. A few suggestions may help to elucidate this point of view as it applies to the secondary-school level—Grades VII to XIV, inclusive.

1. Vocational Business Training

It must be recognized that there still is need for vocational business training, but that it must be more varied and extensive than it has yet been to meet rapidly changing employment demands. No longer can it be safely assumed that the open sesame to a business career always is clerical training. Nor can it be shown that a career is sure to follow entrance into business through this channel. It cannot be proved that all students have what it takes to prepare for the skilled office trades, or even for any one of them. Nor can it be assumed that office trades have remained static through the years, or that they will remain so through the years ahead. Mechanization of office work is becoming a reality which must be taken into account. Occupational analyses must be the basis of vocational business training. Essential skills must be developed. Occupational intelligence must be assured. Knowledge of business principles must be acquired. In short, sufficient skill to meet initial employment standards must be developed, an awareness of the environmental demands of first jobs must be acquired, and basic understanding of business principles so essential to advancement must be assured in any sound vocational business-training program.

a. Up-Grading Necessary. All dependable signs point to the need for up-grading vocational business training to bring it into line with employment practice. Prior to the present emergency with its rapidly accelerated demand for workers, it was obvious that the initial employment age for both office and distributive workers was rapidly approaching that of people a year or two out of high school. After the emergency passes, as all emergencies do, the trend towards employing mature workers will be resumed. Mechanization of office work, social security

laws, employer liability laws, plentiful supply of available mature workers, recognition of need for more formal education, broadened program of courses on the secondary-school level, extension of that level to Grades XIII and XIV, and the availability of post-high-school training in junior colleges and vocational institutes will conspire to advance the initial employment age for commercial workers. Thus, it should be obvious that secondary-school programs must be readjusted to bring them into line with this trend.

It should be emphasized that a proper up-grading of vocational business training will bring new opportunities for service in this field. Occupations open to graduates of junior colleges are more extensive and important than are those open to high-school graduates. Training for positions not accessible to youth of high-school age may then be given with reasonable prospect of satisfactory occupational adjustments. Four years of background training, better and more extensive try-out and exploratory courses, and proper selection of trainees at the higher level make this possible. That a very large proportion of students in junior colleges are enrolled for terminal courses, and that a preponderance of these enrolments are for business courses of the traditional kinds (secretarial and accounting) indicate the need for curricular revision and expansion at this level. The junior college that merely takes over the inadequate program in the next lower school is but repeating the futile experience of that school when it took over the private business-school curriculum, or the even more futile experience of the junior high school when it attempted to offer the usual high-school business subjects to its children.

To place the vocational objective first is not to deny other objectives, but these other objectives are in a sense the by-products of sound business education. Otherwise they must be achieved through new courses given wholly by commercial teachers or by them in co-operation with others. Keep in mind the fact that any business education that can be shown to be essential for *all* becomes at once general education. Even that which is not essential for all, but which is essential for those who are contemplating the desirability of preparing for business careers —try-out and exploratory courses—should be given as a part of the prevocational program and without immediately departmentalizing those who take it.

b. Regional Schools. It should be apparent to all that sound vocational business training rarely can be given in small high schools, how-

ever much local authorities may want to make available to their boys and girls a variety of types of training.

In sparsely settled territories there may be no way of bringing to boys and girls opportunities for vocational business training in the local school. In a great many areas, however, the regional school can be made the solution of this problem. In almost every small high school there are a few who should be encouraged to take vocational business training if they desire it. If there is a central regional vocational school to which these students can be sent, worth-while training may be given, and at a cost considerably below that which a much inferior kind of training would cost if given to a few students in the local school. Where regional schools under public auspices are not feasible, it usually will be found better to send the few who are qualified for and desire to take vocational business training to distant public or private schools at public expense rather than to undertake to give vocational training to small groups in the local school.

c. Training for Distributive Occupations. Distributive occupations that absorb such a large proportion of youth must be assured a larger place in plans for developing newer and better programs in this field. Under the stimulus of the George-Deen Act progress is being made in this direction, but the interest of those responsible for developments under this Act centers in the field of extension training for small-store merchants and employed people. The importance of this kind of training cannot be denied, but it should not be given at the expense of, or to the exclusion of, pre-employment training for those who expect to obtain work in the distributive field. To neglect this latter group is to perpetuate a vicious cycle of incompetence that can only be ameliorated by extension training given after much of the social loss, due to faulty merchandising practice and incompetent sales service, has been sustained by the public. It is perfectly proper to make training available to those who for lack of it are rendering low-grade service, providing the practice of waiting for such low-grade service to materialize before anything is done about it is not established on a permanent basis. In other words, to the extent that pre-employment training may be depended upon to eliminate, or even to lessen, the degree of incompetence of novice merchants and workers, no stone should be left unturned in attempts to provide it.

At the very outset under the George-Deen Act the United States Office of Education recognized the need for, and the possibility of, offer-

ing pre-employment training for distributive occupations, but many state directors of vocational education sought to show that only "part-time" training could be given and that this excluded pre-employment training. Some still persist in this view of the matter. Nothing in the Act, or in the federal interpretation of it, limits its aid to "extension" courses for fully employed people. All that is required is that pre-employment training be given in co-operative courses with time divided between school work and experience on the job. That the Act covers co-operative courses is no longer a moot question. All that remains to be done to make this provision of it more effective is for federal and state officers to accept the idea that training of basic character given to employed people should be considered in the nature of a temporary stop-gap; that such training should be given widely in pre-employment co-operative courses where it can be given less expensively and more opportunely; that advanced extension and refresher courses should be reserved for employed people or unemployed people who have had experience; and that this plan will substantially reduce losses, individual and social, which now accrue through incompetent initial service.

d. Clerical Training. A brief word should be said about this type of business training which, if given at all, is given merely as a minor subject in the bookkeeping and stenographic major programs. Yet, as has been pointed out, the vast majority of office jobs are nonbookkeeping and nonstenographic. It is high time that clerical courses should be given a major place in the program to the end that vocational business training may become more responsive to current demand for office help and to provide a much greater range of choice to meet the needs of young people of widely differing aptitudes, interests, and abilities.

Machine clerical jobs are becoming more numerous and important each year. Among them are calculating-machine operator, bookkeeping-machine operator, and machine transcriber. File clerk has become a job of great importance and complexity. General clerical work of great variety makes demands upon workers such as can be met successfully only through adequate training, and much of this training can be done on a pre-employment basis. Much of it lends itself to the development of the good work habits so essential to success in any clerical occupation.

No longer do the stenographic and accounting jobs necessarily offer the best stepping-stone values for *all* students. For some students cleri-

cal jobs hold out much more promise from this viewpoint. Hence clerical courses may be commended, not only for their initial job values, but also for their importance as points of departure on a business career.

e. Work Experience Essential. In the other major fields of vocational training, work experience for teachers and trainees alike is required. In business education none is required, except in the distributive field under the recent George-Deen Act.

Co-operative courses—those in which time is divided between work in school and work on the job—are the only kind in which sound and adequate pre-employment vocational business training can be given. Such courses are feasible in any community where such vocational training should be attempted. In communities where work experience is lacking, occupational opportunities also will be absent. In such communities only prevocational and consumer business courses should be offered.

Federal aid, conditioned upon a division of time between school and job, has brought about co-operative or other part-time programs in the other fields of vocational training. But there is no need to await this compelling force before adopting the principle of part-time training in the field of business training. It costs less and produces better results.

f. Evening-School Business Training. In the field of vocational training the evening school is intended to supplement the work of the day school—not to duplicate it. In the other three departments of vocational education most, if not all, real vocational courses are subsidized under state and federal acts. But all such courses are *extension* in character, not *preparatory*. They are intended for employed people or those of experience who are unemployed. They are up-grading or refresher courses. As a prerequisite for federal aid they must be of this character. This is no accident. It is a requirement founded on the belief that, generally speaking, preparatory courses are not suited to evening-school instruction. In this belief there has been no wavering since the parent vocational act became operative twenty-five years ago.

In the field of business alone are evening courses almost wholly preparatory—duplicates of the day-school courses. Store salespeople are taking stenographic courses. Bookkeepers are taking salesmanship. File clerks are seeking to become stenographers. And so on through the list. Each worker enrolled is trying to escape from his present position regardless of its potentialities.

2. Clerical Workers and the War Effort

In the literature coming out of the United States Office of Education regularly, much space is given to vocational training in the war effort, but scarcely a word is said with regard to any kind of business training. Thus, it seems clear that those who have to do with vocational training for the war effort, as in peace times, tend to exclude vocational business training from their thinking, largely because it is not a part of the federally aided program of vocational training under the various vocational acts, except in the field of distributive occupations under the most recent one. Columns of space are devoted to reports on vocational training in the war effort in the biweekly publication of the United States Office of Education, but seldom, if ever, is vocational business training mentioned. There is evidence, except in areas particularly influenced by war activities, that no very great emergency exists in the field of clerical training, but this does not explain why officials in charge of vocational training do not include business training in their reports. It is important that the fact that there is no scarcity of clerical workers, if that is a fact, be made known to those who are engaged in clerical training. At least half a dozen agencies and individuals are at this moment working for federal aid in the field of business training on the theory that a shortage of clerical workers really does exist. These people and those whom they reach in their effort to get federal aid for this kind of work are entitled to know the facts.

Piecing together such facts as are available, the situation may be summed up by saying that the need for clerical workers probably is not so acute, outside Washington, as is the need for many kinds of industrial workers. As office workers and store workers are drawn into military service the need for properly trained people to take their places will be more acute. Whatever is done to meet the situation probably will have to be done by local school authorities, private schools, and others outside federal agencies. It is not at all likely that under the existing set-up in the field of education under federal and state auspices, this field of service will begin to receive the attention it requires and deserves before the emergency is over.

It is not at all unlikely that the period through which we are passing will be of some material benefit to the field of business education. With higher taxes and living costs, the need for consumer economic education is bound to be felt more keenly throughout the country. Schools are sure to give more attention to this need than they have in the past.

Business-training programs on the secondary-school level are quite sure to be reorganized so as to bring them into line with better principles and procedures that have been found effective in other fields of vocational training. This field, in common with the others, is sure to learn much from the in-service training programs which have been organized, especially in the industrial field. The importance of work experience as a part of vocational training for business occupations is being recognized, and in-service training programs now being put into effect are demonstrating how work experience can be made to contribute more effectively to the education of youth.

Evening-school business courses are likely to become more definitely vocational and to be based more securely on the needs of the people already in service. In other words, evening-school extension business training is likely to supersede to a considerable extent more or less futile evening-school preparatory vocational business training.

Occupational surveys, now quite necessary to find out just what the training needs are in this field, are likely to be continued after the emergency passes and thus to influence greatly the kind of training that will be given in the years ahead.

Machine clerical-training and other kinds of training designed to prepare young people for nonstenographic jobs are likely to receive more attention in the future than they have in the past, although the loud call for stenographers and typists in the nation's capital, if from no other source, is tending to nullify most of the effort that has been put forth in recent years to get across the idea that not all young people, especially girls, can or should become stenographers. Naturally those interested in training for stenographic work are making the most of the present situation to bring young people into their classes. With the thousand stenographers and typists being recruited for Washington service each week, one may well be disturbed by the thought of what will occur when this tremendous aggregation of stenographers and typists of all degrees of competency is unscrambled after the emergency passes.

Business educators have been trying for years to reap the benefits of a well-organized and competent vocational-guidance service in connection with schools in which their training is being given, but without much success. There is some prospect that in the years ahead guidance will be given its rightful place in both public and private school pro-

grams. This should insure a larger number of better qualified students for vocational business courses.

The most disturbing thing about this whole situation is the fact that business education has played a lone hand so long that it is quite naturally overlooked in an emergency of this kind. Everyone seems to take it for granted that enough business training is being given, that enough clerical workers will be available, and that if they are not, people can be employed for such jobs without training even though several need to be used for a day's work that one competent worker could take care of easily. It behooves business educators to improve their status in the field of vocational education and to co-operate and collaborate with other divisions in this field to the end that in the years ahead, whenever there is planning for vocational education, business training will be included regardless of the agency that is doing the planning.

3. Consumer Business Education

Vocational business training is not the only kind now being offered in our secondary schools. *Consumer* business education is becoming a matter of great concern to commercial teachers. Just what is consumer business education? What is its relationship to consumer education as a whole?

The basic term for all education that is intended to fit one to procure and utilize most effectively desirable goods and services, as distinguished from that which is designed to fit one to produce goods or services for financial rewards or otherwise, may be called consumer education. Or, to put it another way, that which is designed to qualify one to use properly (consume) the goods and services produced by others is consumer education. An art course designed to prepare students to paint for profit is vocational; but another intended to prepare one to understand and enjoy art is a consumer course. A course that qualifies one to keep books, or sell goods, or take office dictation is vocational; but others that aim to equip one to keep his own personal records, or to buy goods intelligently, or to make personal notations in shorthand are consumer. A course that qualifies one to enter the plumbing, house-painting, or carpentry trade is vocational; but another that prepares a householder to do small plumbing jobs in the home, or to paint his screen doors, or to nail a board on his attic floor is consumer. And it should be clear that consumer objectives should be achieved through

nonvocational courses, and that their achievement should be the shared responsibility of many departments of secondary education. But already there is mild feuding among departments for supremacy in this field, where there should be the closest and most intelligent co-operation. However, progress is being made. It could be more rapid; and it would be more rapid if leadership in the fields concerned could be brought to an understanding of their mutuality of interest, and if the various administrative officers in the field of education—federal, state, and local—could be made aware of the urgent need for more serious attention to this education objective in view of the obvious economic illiteracy of the people of this country and the difficult economic problems that will confront them when the inevitable period of economic readjustment arrives at the conclusion of the current war emergency.

What is more natural than that the vocational business subjects—both skill and background—should be perverted to new uses consistent with this new objective. We are told that these traditional vocational courses produce outcomes in terms of consumer economic understanding and personal economic efficiency; or that they can be made to do so. If surveys reveal the futility of present vocational business-training programs in terms of ultimate occupational adjustment, the less easily measured outcome of personal economic efficiency always can be claimed in justification of the retention of them. If modification of content or method is necessary, that can be brought about easily—at least so believe many commercial teachers who are using these subjects for the achievement of this new objective. But it rarely seems to occur to many of them to question whether or not in making these changes they are doing violence to vocational business courses as media for the achievement of the objectives that brought them into being and that have justified their retention through the years.

It should be clear to every business teacher that whatever is *essential* in the way of consumer education, is essential for all, not merely for those who happen to enrol in the commercial department. Therefore, it must be regarded as general education and be so placed in the program as to reach all. It should be recognized that business teachers can and should contribute to a minimal program of consumer economic education for all students; but it should be equally clear that this contribution should be a co-operative one and not a departmentalized one. In other words, the achievement of some degree of personal economic

all young people, and responsibility for its achievement should be shared by all departments in the secondary school as long as the departmentalized form of organization exists (which many hope will not be too long).

There is another element of confusion with respect to consumer education. Some, but not all, consumer education is *economic*: that which is designed to make one economically efficient—able to play his proper part in the economic life of his community both as a worker and as a voter on issues which concern the economic life of the community. This aspect of consumer education is further divisible into two parts, the first having to do with one's social obligations and problems and the other with one's personal economic problems. Obviously, as long as departmentalization is continued, the social studies department should accept larger responsibility for the achievement of the former objective and the business department for reaching the latter goal. It is this latter kind of economic education which may be properly called *consumer business* education but which, after all, as far as it is essential for all students, really is a phase of *general* education.

The irreducible minimum of personalized economic (business) training should be co-operatively determined. Curricular placement of this essential should be such that *all,* not merely *commercial* students, will get it. Teachers from several departments—those best qualified—should teach it. Commercial and home-economics labels for this work should give way to something more inclusive—general, perhaps. Only thus can business education be freed from the weight of consumer-education burdens which tend to destroy its effectiveness as vocational training, add to difficulties of identifying and appraising its outcomes, and prevent the development of sound consumer economic education so placed as to reach all youth during the impressionable age when life-long economic habits are being formed. Thus, it would seem that an area of business education which may be considered of vital importance to *all* youth should cease to bear the label of any special field.

IV. Administration and Supervision

Under federal and state vocational-education acts adequate supervision in the subsidized fields of education is mandatory. But in the unsubsidized field of business education wholly inadequate super-

vision is the rule. The result is the somewhat chaotic situation which is described briefly in this chapter.

At the top the United States Office of Education has failed to provide the service badly needed to overcome the defects noted. It is true that there is, and always has been, a chief of the business education service on the staff; but his time has been, and still is, devoted almost exclusively to extension training in the distributive field (even before the George-Deen Act with its provision for this area of business education) to the exclusion of the clerical field which is so badly in need of assistance, and in which about one-third of all high-school enrolments occur.

It is worthy of note that the original Smith-Hughes law makes it mandatory that the Office of Education shall "make, or cause to have made, studies, investigations, and reports, with particular reference to their use in aiding the States in the establishment of vocational schools and classes and in giving instruction in . . . . commerce and commercial pursuits. . . . . Such studies, investigations, and reports shall include . . . . commerce and commercial pursuits and requirements upon commercial workers . . . . and problems of administration of vocational schools and of courses of study and instruction in vocational subjects." No limitation in distributive occupations here; and yet little, if anything, has been done by the Office of Education in the past dozen years to render service in commerce outside this area. Even now there is no member of the staff whose duty it is to do research work in the clerical area of business education or to aid schools in the development of better programs in this field.[1]

At the outset under the Smitn-Hughes Act the federal authorities called attention to the importance of "better supervision of this kind of training in all the states," noted the fact that but one state had a director of business education, and stated their purpose "to bring about this result (better supervision) by showing conclusively through its published bulletins and field work that such supervision and direction are necessary to safeguard the interests of the hundreds of thousands of young people interested in this kind of vocational training."[2] But twenty-five years later there are but six states—a gain of five—that have a supervisor in this field, and several of these did not make this

[1] One has been appointed since this was written.

[2] Federal Board for Vocational Education, *Second Annual Report*, p. 66. Washington: Federal Board for Vocational Education, 1918.

appointment until 1940 when George-Deen money became available for the salary of someone to supervise the distributive field. So even now the much older and larger clerical field is without needed reorganization and supervision.

The case is even worse for city supervision of this complicated field of training. About twenty-five cities have supervisors. Some of the largest, however, have permitted this job to lapse in the face of greater need for it than has ever existed before. It is obvious that little real progress towards the development of unified, purposeful, and effective offerings in this field can be expected until those responsible for the administration of public education become aware of their inexcusable and disastrous neglect in this most important segment of their total program and set about the task of providing supervision where it is so badly needed.

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CHAPTER XIV

EDUCATION FOR THE SERVICE OCCUPATIONS

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1. INTRODUCTION

As the name implies, the service occupations have to do with producing comfort and protection. This protection is of life and property, as in police and fire service. The comfort service represents a much wider range of activities—assistance in the home, in personal grooming, food service, and service received through institutions. The *Dictionary of Occupations* lists four groups of service occupations:

(1) Domestic-service occupations whose functions have to do with the maintenance of the household, such as personal attendants, the preparation of meals, the care of children, or the care of home or yard;

(2) Personal-service occupations which involve service usually rendered through institutions to individuals, such as maid service, housekeepers, barbers, beauticians, porters, cooks, kitchen workers, and waitresses;

(3) Protective-service occupations involving protection of individuals or property such as detectives, guards, policemen, firemen, soldiers, or sailors; and

(4) Building-service occupations which deal with building operation and service, such as janitors, cleaners, and elevator operators.

The service division of the employment field represents a wide range of activity and an equally wide range in occupational popularity and desirability. Some jobs require relatively high ability and considerable training and experience, whereas, a large proportion of the workers in other services learn their jobs by experience. Many of the workers in the service occupations are protected by minimum-wage laws, employer-liability laws, and laws providing for unemployment compensation and old-age retirement, but the two million workers in domestic service are denied these advantages, and, by the very nature of their employment, have made little or no progress in organization for mutual protection or group bargaining.

Men in the service occupations are as likely to continue in their employment as men in industrial work, and are probably less likely to be affected by seasonal business or by depressions. On the other hand, many service occupations for women have a high labor turnover, lack performance standards, legal protection, and group organization. Also, many of the service occupations, being easy to learn, offer the pay of unskilled workers and little opportunity for advancement.

There are, however, some signs of hope for the popularizing of much of the field of service work. The first, and possibly the most important contribution, will come from the public schools. Financial aid provided by the Smith-Hughes and George-Deen Acts enables them to establish a personnel responsible for the determination of training needs and the maintenance of a training service. The latter act extended the scope of authorized training to include public service occupations.

Secondly, the vocational schools, while not directly responsible for the establishment of labor standards, are exercising a major influence on employer and employee groups which is tending to popularize the service occupations. The school training program becomes the common ground on which employers and employees meet with school coordinators to consider the problems of the occupation. These conferences begin with the study of service standards on which training is based, but they do not end until the conditions which make the occupation unattractive to desirable workers are also considered.

The third movement which will affect the status of service occupations is the extension of protective legislation, including wages, hours, safety protection, compensation, sanitation, and tenure. In the past, these protective laws have missed large groups of service workers. More recently, many states have extended wage-and-hour laws to certain service groups and established minimum-wage schedules. State certification and license laws have established standards of qualifications and working conditions for other groups. This latter restriction has the effect of lifting the occupations affected out of the open competitive market.

Finally, the application of local, state, and federal civil service to the service occupations is exercising an increasing influence on occupational standards and on the attitude of workers toward those occupations. It has been the practice of the civil service commissions (1)

to define the responsibilities of a position; (2) to establish the qualifications required by the job; (3) to hold open competitive examinations for candidates; and (4) to establish a reasonable rate of pay for the job; and (5) to protect the employee in his or her position.

II. Personal-Service Occupations

1. Housekeeping and Food Service in Hotels, Restaurants, and Boarding Houses.

The training of maids for hotels and boarding houses has usually been done by the institutions themselves. In larger institutions which offer a high quality of service, the duties of all employees are standardized and the work carefully supervised. To meet the job requirements, the institution provides both pre-employment and in-service training. Pre-employment training may be provided by public schools for those occupational groups which have sufficiently high qualifications to justify it. Examples of this type of training are those provided for all types of food workers in the Food Trades Vocational High School and for ship stewards in the Metropolitan Vocational High School, both in New York City. The pretraining of maids for hotels usually consists of about ten lessons, and waitresses require only a little more. Skill and confidence are acquired only by experience and supervision.

For smaller institutions the school may render a distinct service by offering short training courses, through assistance in establishment of standard procedures, and through foremanship conferences on the management of personnel for housekeepers, hostesses, and managers. These supervisors or executives are distinctly in need of public training service, for the industry has been least able to provide for their needs. This is partly because of the small number of such workers in any one institution and partly because of the nature of their responsibility.

Training for these upper positions is now available in some colleges and universities. The numbers who will avail themselves of the regular college training will undoubtedly be small. This field, therefore, offers to college summer schools and vocational schools a rich opportunity to provide in-service training in leadership and institutional management.

2. Barbers and Beauty Operators

The standards for the training and practice of barbering and cosmetology, or beauty culture, are established and regulated by law in

forty-two states of the union. These standards relate to the length of training or apprenticeship, the instructional content, sterilization and sanitation, and the qualifications of the worker.

The training requirement consists of technical instruction in physiology, anatomy, sanitation, some chemistry, and shop management. The laboratory requirement includes care of nails, care of skin, and care of hair. While standards vary in the different states, the general requirement seems to be at least one thousand hours of school training. In addition, barbers must serve a year as an apprentice. The regulation of barbering and beauty practice is usually in the hands of a state licensing board which includes representatives from the occupation and which administers examinations and issues licenses.

While almost all schools of barbering and most schools of beauty culture are private institutions and are maintained with relatively high fees, there is no fundamental reason why public schools should not provide the same free instruction for workers in this field that it does for others. In the private schools there is a tendency to accept students in terms of their ability to pay and without too much regard for the qualifications of the worker or the employment demand. Private schools have also been widely criticised for exploiting students by giving them extensive work on customers and insufficient instruction on new processes. On the other hand, public school training, which is justified only in terms of satisfactory placement, is free from these inducements and usually exercises discrimination in the selection of trainees and care in the planning of the instructional program.

3. The Practical Nurse, Nursing Aide, or Subsidiary Worker

It took a long and uncompromising battle to establish standards which would place nursing on a professional level. During this struggle every effort was made to discredit the so-called practical nurse and to discourage public activities looking toward their training. But now, with nursing well established as a profession and with a trend away from home and toward institutional and public health nursing, the trained nurse is willing that subsidiary workers should take over the elementary nursing procedures and is glad to assist in the training and placement of nursing aides who may be assigned to assist the trained nurse in hospitals or in homes; or who may be assigned to home cases which do not require the services of the trained nurse.

The selection of students for home-nursing aides is based upon the

following recognized desirable qualifications: The age varies from 19 to 21 on the lower limit and from 45 to 50 on the upper limit; voice should be pleasant; weight not excessive; color clear; personal hygiene and habits should be free from offense; the student should be cheerful, interested in nursing, and capable of getting along with people.

The training includes: elementary nursing procedures; review of physiology and hygiene; instruction in the care of children; food preparation; and home management. Classwork and supervised experience is accomplished by alternating periods in school and either home or hospital. Practice seems to indicate that after three to six months of preliminary training, the student may be given home assignments under supervision. This supervision may be given by the instructing nurse, or it may be provided by the community nursing service.

III. Domestic-Service Occupations

Domestic-service workers constitute the largest single group of employed women in the United States, yet this occupation carries a social stigma, has no standard of service, wages, or hours, and lacks legislative protection for the worker. There are, however, organized groups who are working to remove the objections to household work as an occupation. These efforts proceed in two directions, educational and legislative. An important part of the educational work must be with the employer-employee groups to establish voluntary agreements as to wages, hours, and standards of work performance.

The worker wants reasonable hours, including provision for time off, vacations, and, where she "lives in," adequate food and lodging. She wants wages comparable with other skilled occupations, including raises with improved service and increase of responsibility. She also wants opportunities for social life and companionship, apart from the job, which is frequently denied.

The employer wants a skilled, intelligent, reliable worker who can adapt herself to the needs of the home, which she interprets as meaning practically day and night service (without additional pay for night service).

Schools established to train household workers must take into account the needs of both groups and their legitimate demands. The training should include classwork and laboratory practice in foods, housekeeping, child care, and employer-employee relationships. Em-

phasis should vary according to the interest of the worker and the kind of job she hopes to obtain. Class instruction should be supplemented by practice-house experience, preferably in a house where people live and where the duties and schedules are as nearly as possible like those found in homes. The training and practice-house experience is usually accomplished in about twelve weeks of from twenty to thirty hours per week. Provision should also be made for follow-up or supervision of trainees until job adjustment has been accomplished. This should be recognized as a responsibility of the schools for the first two or three months, although it may be done by the employment service or other co-operating agency.

The placement service of household employees may determine the success or failure of the training project. It is important to recognize the personality factors of both employer and employee as well as the job requirements in making placements. Also, when trainees are placed only with employers who are willing to accept recognized wage and hour standards, the wants of both employer and employee are more liable to be satisfied and other workers will be more willing to train for this occupation.

Lacking legislation, occupational standards may develop through employee or employer groups, or through a joint council on household employment representing various interested women's groups. Such a council may provide the leadership through which suitable standards and the training program may be established and publicized. When once satisfactory standards are recognized there may be hope of securing legislation for the legalizing of standards, and for accident protection, and for unemployment and old-age benefits for the worker.

The household employment problem is unlike many occupations in that it requires the active co-operation of all parties concerned. The initiative has often been with the Y.W.C.A., the W.P.A., or the vocational division of public schools. It might also be with groups of workers or other interested women. Projects undertaken by single groups have seldom been successful. The Philadelphia Institute on Household Occupations has demonstrated what can be done in the recruitment, training, and placement of household workers through establishment of high standards and effective follow-up work. Many other cities are now carrying on experimental work which gives fair promise of leading to the acceptance of household service as one of the more desirable occupations for women. The best source of information of

current training programs is in the *Bulletin of the National Council of Household Employment,* with headquarters at Haverford, Pennsylvania. The interest in the problem of household employment is evidenced by the numerous studies made and articles written on this subject.[1]

IV. Protective Service

1. Police Protection

The direct and indirect costs of crime in the United States have been estimated in excess of fifteen billion dollars per year. To curb the activities of the criminal and to restrain the tendencies toward crime among the noncriminal population, we maintain a police force of 160,000 officers, one-sixth of whom serve the rural areas and are classified as sheriffs, marshals, and constables.

Because of the intolerable abuses which developed in the operation of police service under politically elected leaders, a system of oversight or checks through local civil service boards has been developed for cities and many rural units. The work of these local civil service boards is based on the national civil service system. It includes establishing standards for selection, supervising promotion, and passing on complaints which might lead to discipline or discharge.

Training for peace officers, like other service occupations, has developed out of their own emergencies, leaving to local leadership the first responsibility for the quality of service rendered. Most of the learning is on the job and under the direction of more or less ex-

[1] *Household Employment: Standards of Placement Agencies for Household Employees.* United States Department of Labor, Women's Bureau, Bulletin No. 112, 1934.

Household Employment Problems. United States Office of Education, Misc. 1971, 1937.

An Educational Program for Household Employment. United States Office of Education, Misc. 1717, November, 1935.

Amy E. Watson, *Household Employment in Philadelphia.* United States Department of Labor, Woman's Bureau, Bulletin No. 93, 1932.

Vocational Training for Household Employment. United States Office of Education, Vocational Division, Misc. 1613, 1935.

Household Employment in Seattle. Advisory Committee on Social Security to the Board of County Commissioners, King County, Washington, September, 1937.

A Study of Household Employment in Omaha, Nebraska, made jointly by the Omaha Y.W.C.A. and the Omaha Public Schools, 1932.

perienced officers. Since the enactment of the George-Deen Act in 1936, authorizing the use of vocational-education funds for training in public service, the schools have worked with the police officers in the development of courses of instruction in the several divisions of police work. These short courses are now used to supplement the job experience of the men and are taught by officers who have been trained by the schools in the technique of teaching and in personnel methods.

Many plans of training have been attempted, and where well managed, have proven successful. In the Wichita, Kansas plan, a system of cadets is used in which the newly appointed officers spend half time for a period of two years in a police-training course of a local college or university and half time in service, for which they are paid a nominal wage. Short, intensive retraining conferences are also held from time to time, for review purposes, as a part of the local system of promotion and to keep abreast of new developments.

The Denver, Colorado, plan provides for taking 5 per cent of the force from active duty for periods of two weeks for intensive training. Many cities modify this plan by providing two-weeks training courses once a year or by maintaining a system of in-service instruction which may be on the time of either the employer or the individual or a combination of both. Training units have included criminal investigation, traffic regulation, public relations, crime prevention, criminal law, report writing, mechanics of arrests, first aid, and life saving.

Some colleges, such as the University of California and Wayne University, have added experienced officers to their faculties and are now offering a course of pre-employment training for the more technical aspects of public service such as detection, identification, and sabotage. This development gives promise of materially raising the standard of public protection and can be successful if adequate entrance requirements and effective articulation with the practices of local civil service boards can be maintained.

Probably the greatest incentive to the professionalizing of protective service has come through the activities of the Federal Bureau of Investigation. This organization, through the selection of superior men and through training and careful management, has set new standards and inspired a new measure of public confidence in police service. It has made a major contribution to local departments by inviting them to send representatives to the National Academy of Police for three months' training periods. Graduates from the Police Academy

in Washington are invited to return each year to a one-week retraining school. The Federal Bureau also loans its trained men to local departments for short courses, which are increasing in popularity and are proving highly effective.

2. Fire Protection

Fire protection has made enormous strides since the days when the chief qualifications of firemen were willingness to volunteer and ability to "pour on water." The losses which have resulted from lack of equipment, from inability to use the equipment available, and from water damage has frequently exceeded the loss by fire; and the influence of insurance companies which organized to minimize their losses has stimulated efforts to determine the best methods of preventing and combating fire.

Most cities have drill towers to which beginners are assigned for preliminary training and in which older men are given periodic reviews in a wide range of procedures. These procedures have been carefully worked out and standardized, so that complete teamwork can be accomplished throughout the entire department. Smaller cities and rural areas often lack these facilities and may even depend upon voluntary service for fire control. Several plans are now in operation for improving the service in these areas.

Some states, California, for example, have a state fire marshal, who may give advice on the selection and use of equipment and inspect its maintenance. State school units, as in Utah, may give similar service through the appointment of itinerant instructors who conduct area training schools and who work with local departments in the organization of the force, in the use of equipment, and on problems of public relations. The possibilities of this type of service are unlimited, as is amply attested in communities where it has been tried. Fire underwriters have frequently reduced community insurance rates due to reduction of fire losses attributed to better equipment and to better training of personnel.

A second service which the schools may render consists of training fire department officers in personnel methods and teaching techniques so that the work they do may be more effective. This service is not unlike that which is given to police officers or to the leaders of any local business or industry.

CHAPTER XV

INDUSTRIAL EDUCATION—SKILLED, SEMISKILLED AND UNSKILLED

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I. CURRENT HISTORY AND PRINCIPLES OF INDUSTRIAL EDUCATION

1. Adverse Agitation and Favorable Statesmanship

a. The Social Need and Conflicting Public Opinion. Only a fe years ago a distinguished commission of employers, labor leaders, a educators conducted and published at a reputed expense to the gover ment of a couple of hundred thousand dollars a report with recor mendations upon the relationship of the federal government to sta and local school systems. One would hasten to agree with many the findings of so eminent a group. One concrete emanation, howeve from this foot-thick inquiry was seemingly some advice to the Pres dent of the United States that caused him to express reluctance to si the George-Deen Act increasing to $7,000,000 the federal aid to indu trial education and, seemingly, to utter doubts that, in the face unemployment supposedly due to the intensive mechanization of i dustry and all economic life, there was little likelihood of immine need in America for the increased training of mechanics and industri workers.

This was but one current reflection of the tragic irony that whi Japan, Italy, and Germany during the depression were prodigious mechanizing and producing in enormous quantities the goods requir for war, public opinion and the economic tinkerers in England, Franc and America were advocating or actually effectuating: (1) the taxi of inventions and of mechanized production, (2) the curtailment of production, (3) the destruction of crops, and (4) the prohibition the use of machinery on public works. Our thinking seems to have pr ceded from the naive concept that restraining the creative impulses

man, reducing his efficiency, and destroying our national wealth en masse would bring back our national prosperity and security.

b. Denial of Skilled Mechanical Careers to American Youth. The most immediate and poignant sufferers from this inanity have been American youth. In the long view of economic history the mechanization of industry does not reduce but increases in multiple ratio the demand for highly skilled labor in the making and maintenance of machines. Mechanization does reduce, gradually or drastically, the demand for the crude or simple skills of the so-called common laborers of whom youth made up such a large proportion. Even as machine tenders, employers prefer to employ responsible, steady adults in place of unsettled youngsters. But it was largely through the unskilled jobs that youth formerly were inducted into industry, and a considerable proportion found their opportunities to advance to complete career-offering repertoires of industrial skills. Mechanization made industrial youth-labor unprofitable. Union labor restrictions, child and other labor laws and regulations, reasonable and unreasonable, came in. The employer making a virtue of immediate profit, or hesitant to train youth in the face of possible legal or popular penalties for such social and business vision, refuses to employ them. Public opinion and fatuous educational ideals reflected in compulsory attendance laws force youth into schools full time, regardless of what the schools have to offer or of the willingness or abilities of pupils to make use of it. And the turning of the ambitions of our naturally inventive, mechanically minded youth to careers of high industrial skill is made as difficult as this combination of all adverse circumstances can make it.

c. The Shortage of American Skilled Mechanics. Today our nation knows that in our shortage of mechanics and skilled industrial workers lies the most imminent threat to that body of ideals which we know as the American way of life. For if the mechanized Juggernauts of Germany and Japan are destroying our civilization, only American mechanics can save it. Much as we abhor militarism, we now know that the United States must strain its might to become and remain the greatest mechanized military nation on earth.

Since the instruments of modern mechanized warfare require mechanics to operate and maintain them on the battlefield as well as to build them, the present frightful carnage is not only destroying the accumulated products of skill of the ages but will leave the world with a shortage of mechanical skill for replacing the property destroyed

and for supplying even the peacetime demand for goods such as will require years to make up. Hence, in every department of life the labor shortage will intensify the mechanization of all occupations—agricultural, industrial, business, and domestic—to a degree that staggers the imagination.

d. Present Legislative-Financial Promotion of Industrial Education. Such was the thinking—economic, educational, political—that took France over the precipice and Great Britain and us to the brink.

However, the Congress, state legislatures, state and local boards of education, school superintendents, union officials and employers, generally close to the needs of all the people, over the years have winnowed out the educational and economic chaff and have consistently promoted industrial education as originally projected.

For the training of mechanics and other industrial workers the federal government is now aiding the states not only with the $3,000,000 under the Smith-Hughes Law and with the $4,000,000 under the George-Deen Law, but, under the National Defense Education Law, with $104,000,000 for short, intensive courses for such defense-essential industrial workers; with $5,000,000 for the training of defense-emergency farm and rural-community handymen; and with $30,000,000 for the short, intensive college training of defense-industry technologists.[1] This $139,000,000 does not include an estimated $35,000,000 from state and local funds for salaries and supplies for industrial education. Neither does it include the enormous costs of industrial-education buildings nor of any equipment purchased prior to the summer of 1940 when the national defense education laws were passed.

2. The Abiding Concepts of Industrial Education

a. Industrial Schools Tenaciously Preparing Since 1917. Such a vast expansion, with so much accompanying commendation of state and local school systems and so little adverse criticism of current results, did not occur merely by the waving of the 1940 federal legislative wand over the industrial-education systems of the country. For 23 years since the passage of the Smith-Hughes Law in 1917, the state and local industrial-education systems of the country had been domi-

[1] This $139,000,000 for industrial *schooling* under the control of the state school systems does not include the approximately $49,000,000 appropriated to be spent through the National Youth Administration as a public works agency for the giving of industrial *work project experiences* to otherwise industrially unemployable youth.

nated by educational and industrial concepts that were preparing them for the emergency of 1940. Despite, and perhaps in large measure because of the critical attitudes of two distinguished commissions appointed by two presidents and composed of many distinguished educators and persons from various walks of life, despite the major legislative attempts to stop the further training of vocational teachers and supervisors and to harass the whole development of vocational education as it had started, despite the jarring blasts from organized labor and organized business of a few years ago, the industrial schools clung tenaciously to the growth into American life of their original concepts.

b. Economics of Plenty. The all-inclusive economic concept of the Congress, legislatures, school boards, school superintendents, vocational-education administrators, and teachers in charge of the industrial schools seems to be expressed in the oft-used phrase of the *economics of plenty* as opposed to the *economics of scarcity* that seemed until recently to pass current as wisdom in certain social, economic, educational, political, and governmental circles. For from experience educational administrators know, as economic history teaches, that individual ignorance and ineptitude in production, scarcity, inflation, business crashes, unemployment, privation, regimentation are forever linked, and can be fought only by individual insight and skill, and production limited only by human need and human ingenuity to satisfy it. Educators, statesmen, and mental hygienists know that the mind trained to add to the wealth of society—to create objectively—cannot as readily think in terms of subjective self, of dividing up, or of destroying what another and society has created and accumulated.

c. Representative Control. The second concept that has dominated industrial education and prepared it for the present crisis is that, to train American citizens for the industrial lives that they must lead, *industrial education must be controlled by bodies that are representative of all elements in industrial life.* Thus slight changes, to say nothing of major upheavals such as the initiation of defense production, in industry are reflected immediately in the industrial-education offerings. Local boards legally controlling vocational education composed in part of representative employers and labor leaders, appointed by the regular local school boards as in Wisconsin, corresponding representative state boards for vocational education in several states, the Federal Board for Vocational Education, later made ad-

visory, all are examples of such control. Encouraged by the policies of the United States Commissioner of Education as regards the use of federal funds, a tremendous growth of state and local industrial-education advisory committees has occurred all over the United States. The inherent weakness of the advisory committee, as compared with the representative board of legal control, seems to lie in the separation of the body with the concentrated, publicly recognized responsibility for giving advice from the body with the publicly and legally recognized responsibility for operating the vocational schools. As influences to keep vocational education responsive to the people's needs, advisory committees vary from mere shams and polite gestures to indispensably constructive forces, depending upon the respect in which the committee members are held by their constituents and upon the sincerity of the school administration in seeking advice, its capacity for taking advice, and its leadership in winning the respect of the advisory committee. Quite generally it may fairly be said that the industrial-education systems have learned or are learning through long experience—indeed through organized training also—the indispensable techniques of working under such controls to adjust themselves to needed changes.

d. The Vocational School as the Vocational-Education Co-ordinator of the Community. The third concept that has increasingly taken root in American industrial education and made it ready for the tremendous expansion in 1940 is that *the vocational school must be the co-ordinator of the community in getting all parties-at-direct-interest to bring their potential vocational-education facilities and faculties to bear upon the total adjustment of the citizens for occupational proficiency.* No school, even if it could command all the educational tax money that ever has or ever will be spent, can any more perform the rightful vocational function of the employer in the place of employment, of the labor union, of the employment office, of the social service agency, or of the parent in the home, than these can perform the function of the school.

e. Industrial School Standards Must Be the Best Prevailing. The fourth concept, selected for mention here, that has kept the industrial schools attuned to the changes of industry is their belief that *the best prevailing standards of industry must be the minimum standards of industrial education.* Now then, America already has too many shysters, quacks, and jacklegs who are generally the result of indiscriminate

admittance and slipshod and limited attempts at training. Because of the continually advancing standards of precision in workmanship and the detailed technologies necessary to secure it, such are increasingly thrown on the economic scrap heap, useless to themselves, a drag on society, and a menace to democracy. And because of these same advancing standards, the occupational training carried on by the schools should not only equal the best prevailing standards of practice but should stimulate the imagination of the pupil to improve upon the best. Otherwise the schools at public expense run the risk of turning out more jacklegs further to glut the labor market and further to intensify what ails us now.

f. Only Those Who Can Do Can Teach. The fifth abiding concept of industrial education to be mentioned here, in many respects the most vital one over the years in preparing the industrial schools for the training of workers for war-essential industries, is that *only the outstandingly successful practitioner of an occupation can teach it.* Unless the industrial schools employ as teachers of such occupations people who have been outstandingly successful in the occupations into which the schools are to induct trainees, or in which the schools are to adjust trainees better, the trainees will be handicapped in skill and attitude, for they would attempt to enter occupations below even the prevailing standards of such occupations.

g. Industrial Atmosphere and Environment Required. The last concept to be mentioned here, and the one which has kept the industrial schools close to the realities of the changing industrial world and kept the education systems ready for the defense vocational-training emergency, is that *vocational training must be cast in the atmosphere and environment of the occupation for which training is offered.* Seriousness of occupational purpose must pervade every detail of an industrial-training program. Every detail of such an industrial-training program must be such as to call forth the respect of every occupationally serious pupil enrolled in it.

The pupils selected for training for an industrial occupation must be such as really need it, want it, and are able to profit by it, to use Charles R. Allen's phraseology. He or she must undertake the training as a major life problem. Experience has shown that four thousand hours of shop practice plus sixteen hundred hours of related technological instruction is the minimum in which such an occupation as the machinist's can be learned. A full-time school running fifty weeks per year with an eight-hour day and four hours on Saturday in two

years could provide just about this minimum amount of instruction.

One criterion in the geographical location of an occupational training course is the adequacy of practice in that occupation that can be made available to the trainees in that geographical area. Obviously, the practice training must produce work of real commercial value or the cost of training would be prohibitive as school costs in most communities go, the pupil labor would be wasted, and the interest, and hence the intelligence and effort that the pupil would put into it, would be nil. Equally obviously the school system itself could not supply all the objects for practice. And even if a school system in entering into this sort of a program could have the acceptance or refusal of all the work in a certain line needed by the various departments of the city or state government and such work could be transported to and from the industrial school economically, the school, to secure balanced practice, might still have to solicit work from private persons and organizations and charge for it at the going rate, allowing for the greater length of time a school requires to produce it. Only a city would afford enough necessarily near-by balanced practice in carpentry and joinery, for instance. Even though a school aiming to train machinists and toolmakers might receive such work from all departments of the city or state government, the demands of balanced training would require an industrial center nearby. But any local school administration area in this country could supply enough balanced practice in automobile and truck repair and service management. A school administrative unit might enter into intimate co-operative relations to this end with the state highway department.

II. Economics of Industrial Education

1. Aspects of Economic Life Defining Industrial Education

a. The Meaning of Industrial Education. If anyone has read this far, he is probably now asking to what areas or patterns of occupational life industrial education has reference. This section of this chapter attempts to clarify the aspects of economic life served by what is called industrial education.

b. A Commercial Economy. The present-day American lives pretty largely in a *commercial* or *money* economy. For money he exchanges the raw material he works on. With money, he buys from someone else the products he needs for himself and his dependents. In proportion to its value the more readily transportable the money, whether in the form of paper promises to pay or of precious articles, and the

more widespread the faith of men that the money has its purported value, the more universally it becomes the common denominator of expressing the value of all things. Thus, money enormously facilitates men in the discovery and development of their resources and skills, in finding the human needs which make their resources and skills valuable. And thus money enormously facilitates men in increasing the total wealth of the world.

c. A Subsistence Economy. We Americans live so much in a money economy that we forget that until the beginnings of modern times the tribe or family lived self-sufficient unto itself. It produced all it consumed and consumed what it produced. This sort of self-sufficing system has been given the name of *subsistence economy.*

It is just now being generally recognized that the American farmer and wage earner must use his increasing leisure in his commercial life to increase his own personal efficiency that makes his increasing leisure possible, and also to return in part to a subsistence economy to produce the necessities and refinements that he does not have enough cash to secure for his family. Thus, with increasing leisure, and especially in the presence of war production needs, subsistence economy must fill in the voids of our commercial economy. The laborer who packs the leaking faucet of his cottage is not taking work away from a plumber. He is preventing wastage of his country's resources and conserving his power to purchase commercial values that will actually serve useful ends. Such a subsistence economy can only make wealth of wasted time and resources and thereby supplement, enrich, and actually promote our commercial economic life.

d. The Worker as Proprietor, Employer, Executive, or Employee. Now then in any of these economies the worker may occupy one of the following extreme ranks or one of the several variations of rank in between:

(1) A *proprietor* worker. The husband and wife as partners in the home, the farmer and his wife, whether they are owners or tenants, the combined owner and clerk of the corner grocery store, the building contractor working beside his men, and the now rare captain of industry who owns the business he himself runs are all examples of proprietors. Thus, a proprietor may control only his own labor or, as an *employer,* control the labor of others.

(2) An *employee* worker. The farm hand, the house servant, the store salesman, the industrial-plant engineer, the President of the

Jnited States, and all who exercise their skill in return for wages, alary, or commission also are employee-workers. Thus, an employee ıay have little dictum over even his own labor or he may be an xalted executive directing multitudes.

e. The Workers' Production, Distribution, and Consumption Pur-oses. A worker in one given job may in even a brief period of time ork in both a subsistence and commercial economy and use his or er skills to one or all of the following economic purposes:

(1) A *production* purpose: that is, to changing the form or com-osition of goods or wealth or in rendering a personal service.

(2) A *distribution* purpose: that is, to bartering or selling of oods or services.[2]

(3) A *consumption* purpose: that is, to the ultimate using-up of oods or services.[3]

2. Economies, the Economic Purpose, and the Occupational Patterns of Industrial Education

a. Sound Omissions in Industrial-Education Laws. The vocational ducation statutes usually imply that industrial education is not de-igned to affect the subsistence economy phases of any citizen's life. teflection upon what has been said as to the necessity of industrial tandards governing industrial education will establish the soundness, s to the immediate effectiveness of industrial education, of this legal estriction. A skill that may be a tremendous subsistence asset is often decided commercial production liability. Researches in the pure sychology of habit formation, experiments of the last few years in pplied psychology in industry, intricate industrial motion studies, ll verified by common-sense employment management experience, estify that replacing an inefficient habit with an efficient one is more

[2] Distribution is here used in the common business meaning, not in its eco-omics meaning. The economist uses *distribution* to refer to the sharing of 'ealth between the individual members of society or between the forms of in-ome: rent, wages, interest and profit. The common distinction is maintained ı this article because of the differences in skills, and hence training, required to xecute a production purpose and to execute a distribution purpose with regard ɔ even identical goods.

[3] In this chapter consumption means final or *ultimate consumption* in the sual economics usage. Productive consumption in its economics usage, that is, onsumption for the purpose of further production is, in this usage, treated as roduction or distribution.

difficult than teaching the efficient one *de novo*. It is a commonplace in the testimony of noted music and art teachers that great native talent trained by mediocre teachers to acceptable parlor standards may be prevented thereby from ever attaining to its original professional promise. The development of subsistence mechanical production abilities is the function of industrial arts education.

Neither is industrial education designed by law to make its producer trainees more effective distributors of their products. As Edward A. Filene, late head of Filene's department store in Boston, once said, "The producers know that the business of distribution in many respects requires distinctly different qualities of mind and management."

Nor again is industrial education legally intended to train for intelligent ultimate consumption of commercial goods and services. This is the business of agricultural education in the farming pattern of life and of home economics education in the girl's and woman's pattern of homemaking life. Consumers' classes for people in all ranks of all occupational patterns are recognized features of business education in many communities.

b. Unsound Omission of Proprietorship from Industrial Education Practices. Unlike agricultural education, industrial education affords no effective training for proprietorship, as such, in any occupation. Of course plenty of boys enrolled in industrial-school courses for employees have doubtless later become proprietors; and plenty of men who are proprietors of their own small production businesses enrol with employees in industrial night courses. The industrial-education systems of this country are just as much to be criticized for the omission of proprietorship training, as such, as are the agricultural-education systems for their omission of the training of the present farm hand and sharecropper.

Maybe if this country had put emphasis upon the training of the managerial ability of the small industrial proprietor, we would not now witness the present alarming spectacle of small metal-working shops all over the country threatened with shutdowns because their proprietors do not know how to reorient their businesses to defense production and to get defense subcontracts and raw material priorities. One is also led to wonder if closer co-operation between the teachers and supervisors in industrial education and in distributive and business education might not be a wholesome accomplishment to this general end.

c. The Partial Economic Patterns Served by Industrial Education. After these eliminations we may say that the industrial-education systems of the country train employees below the managerial and supervisory ranks of the professions and all grades of employees in the extraction of minerals, in manufacturing and mechanical industries, in transportation and communication, in public service, and in domestic and personal service, as regards the commercial (as distinguished from the subsistence) production (as distinguished from the distribution and consumption) phases of their lives. It is to be remembered that production means the production of services as well as goods. From the foregoing we can easily see how far shorter than agricultural education and homemaking education does industrial education fail of training its industrial-life pupils for the total economic pattern of their lives.

d. Needed Integrations of Education into the Total Pattern of the Industrial Worker's Life. Nevertheless, any observer of the industrial employee knows that efficiency in the subsistence and commercial consumption phases of the life of the industrial employee, especially the less-skilled employee, may have just as much industrial significance as his efficiency on his job in the plant. While we have talked loud and long about the integration of industrial education and industrial-arts education, *the plain truth is that in general, as administered, there is little integration of this sort between industrial education and industrial-arts education even in the same school system,* especially in the larger urban communities. The wisdom of years of successes and failures in industrial education has been written into the laws that restrict it to its specific commercial productive skills. If this chapter advocates anything, it is the further sharpening of this restricted purpose. But this chapter also pleads for some sort of an integration by which the industrial citizen will be trained as a whole person for the whole economic pattern of his life. Differentiation and integration are always essentials of clear thinking and organized accomplishment.

e. Needed Integrations of Education and the Decentralization of Industry. Integration of the various forms of vocational education and practical-arts education toward training for the total pattern of the industrial worker's economic life becomes increasingly necessary as industry decentralizes. Industrial, business, and military leaders, economic and social thinkers seem rather generally to emphasize that the new industries to be developed will be located in farming com-

munities. The immediate necessity is the military vulnerability of our concentrated industrial regions, as well as the shortage of labor and housing therein. The long-time necessity is to make possible to the industrial family a subsistence homestead to keep the wolf away in times of industrial unemployment; and to the farm family, a near-by market for produce that could not otherwise be raised and sold, or a cash job between crops, or if the crops fail, or when the industries are rushed. The male industrial worker, especially he of the fewest and simplest industrial skills, must be trained to subsistence farming, while the girl and woman industrial worker must be trained to homemaking. The farmer, especially the distressed farmer of the fewest and simplest farming skills, must be trained as an industrial worker.

Experience with classes for distressed urban and rural people indicate that among them are youths and adults of latent artistic, inventive, and trading sense who with training can make their livings as independent proprietors of their own small businesses. The development of the abilities of such industrial proprietors should receive the integrated solicitude of business education, distributive education, and industrial education.

3. The Jobs for Which Industrial Education Trains

a. The Functions of the Worker's Skills. Chart I is an attempted classification of skills according to the functions that one worker, as proprietor or employee, or a group of such workers, may perform in the purposes of production and consumption in a subsistence economy, and in the purposes of production, distribution, and consumption in a commercial economy. The chart, being an attempted classification, is, therefore, also an attempt to show the relationships and hence the meanings of many of the words that are frequently used, often vaguely, in present-day discussions about industrial education.[4]

[4] The terminologies as used in the chart carry their usual meanings as in economics, industry and business. *Direct skills* and *indirect skills* mean the same as the *direct labor* and *indirect* (or overhead or "nonproductive") *labor* classifications of industry. *Control skills* have the same meanings in the chart as *technical control, personnel control* or *personnel management* or *supervisory control,* and *financial control* or *financial management* when used in industry and business. *Service skills* have the same meanings as *service labor, service jobs, service operations,* or *service departments* in industry. Other terms such as technological (from the Greek word meaning *systematic treatment of practical things*) carry their literal and industrial meanings.

We have already, because of sound and unsound law and practices, eliminated from present industrial-education consideration subsistence economy, the workers' distribution and consumption purposes, and industrial proprietorship. However, the better to illuminate the functions of the commercial production skills that are left to industrial education, the second and third columns on distribution and consumption, respectively, are added for comparison.

b. Jobs with Complete Conglomerations and Complete Repertoires of Custom Skills. Let us first consider the one machinist, with a helper, in a rural job (or *custom*) shop. The machinist somehow or other by costly trial and error up to rural job shop standards has learned how to run all the machines in the shop and to muddle through the multitude of odd jobs that come in. He performs all the functions of the skills shown in the first column of Chart I without recognizing one from the other. He, and his name is legion, has—for lack of a better phrase, let us say—a *complete conglomeration of indistinguishable custom-production skills* in turning out the products of his line of work.

The machinist, let us assume, sees himself getting nowhere and for many years thereafter goes to school at night in a neighboring large city. The picture is not at all uncommon. He pursues training that improves him in all the direct, indirect control, and indirect service skills listed. He begins to classify his skills according to their functions in accomplishing production. The more he perfects himself in a skill the more related to and the more distinguishable from his other skills that skill becomes. He acquires—again, for lack of a better phrase—a *complete repertoire of highly developed custom-production skills* in turning out the products of his line of work.

Whatever their lines of work, such workers grow into the *all-round mechanics, artisans* or *craftsmen* of common parlance and respect. Such are the backbone of the building, metal, automotive, aircraft, and clothing trades, to name but a few.

c. Mass-Production Operative Jobs. The shop hits upon a standard *stock* product that sells in great volume. The original job production (or *custom production* or *single production*) machinery is used to build and repair *mass-production* (or *stock-production*) machinery which in turn will produce the standard product. Mass-production *operatives* are employed to feed raw material into the mass production machines, to start and stop them, and to take away the products as the

machines finish them. Some mass-production operatives merely watch automatic machinery and act only when something goes wrong. Some are relatively highly paid for their sensitivity and reliability. Some mass-production operatives use only simple hand tools in a set of simple repetitive motions, such as tightening nuts on an automobile assembly line. By practice under a foreman's tutelage they learn these few direct converting skills in a few days and, in time, develop them to high degrees of muscular sensitivity, accuracy, speed, and volume of production. But machine operating is all that most of the operatives learn. Many women are thus employed, even in metal working, especially in war industries. The men so employed may claim to be mechanics, the newspapers may so refer to them, but the census and the *Occupational Dictionary* do not so classify them. *Operatives are far from being mechanics.*

d. Set-up Mechanic Jobs. But an occasional bright operative studies the particular mass-production machine he operates. He watches the machinist maintain the machine and make the measurements necessary to resetting up the machine when changes are to be made in the goods the machine produces. He learns in night school how to perform such technological and maintenance skills himself. He is made a *machine set-up mechanic,* or *machine adjuster,* or *maintenance mechanic,* or *fixer* as he is called in the textile industry. He may learn to fix only one kind of a machine and acquire marvelous maintenance and uncanny technological skills in so doing. He is a mechanic of a sort. His kind are prolific inventors. But a *maintenance mechanic, as such, is far from being a machinist,* although he may claim to be, and may be so classified on the payroll.

e. Production Supervisory and Production Technological Jobs. The maintenance mechanic however may with study and practice of personnel skills and experience on most of the mass-production equipment of a department or plant become the *mass-production supervisor* (or *foreman,* or *overseer,* or *superintendent*) over other employees. He acquires a *complete repertoire of mass-production skills* of his line. If he is not especially adept in personnel handling and enjoys mathematical and scientific work, he may specialize as a *mass-production technologist* (or *production engineer*) and perform many or all the technological functions of Chart I.

f. Custom Production Specialist Jobs. In a factory that builds hand tools or custom or mass-production machine tools for other fac-

tories, or in a tool-making department that makes mass-production machine tools for other departments of a large factory, in addition to the all-around toolmaking machinists (toolmakers) and die-sinking machinists (die sinkers) with complete repertoires of custom-production skills, we find *custom-production specialists*. A custom-production specialist may set up and operate one precision custom-production machine tool to a far higher degree of skill than the all-around machinist knows it or operates it. He may know no other machine in the shop. He is a machinist, to be sure, and a necessary one in economical production. But he is a long way from the custom-production key man with a complete repertoire of skills on whom American industry can depend for versatility in war and in peacetime world-wide competition.

Custom-production mechanic specialists are common in larger job shops, railroad shops, and even in the building trades. A so-called carpenter may do nothing but lay floors or operate a floor sanding machine. An auto mechanic may make his whole living doing nothing but body and fender bumping.

III. Organization of Industrial Education

1. As to Jobs for Which Training Is Offered

a. Training for "Single Skills" and Repertoires of Skills. Lately America has heard a confusion of tongues as to industrial training. One hears much at one extreme of the advocacy of the public training of the war-industry employee in a "single skill" only, as opposed to training in, presumably, a complete repertoire of mass- or custom-production skills of some line of work. At the other extreme one reads a recent condemnation by the president of a great university of all of what he is pleased to call "vocational education." Do the advocates of training for the "single skill" mean a single mass-production operative's skill, a single set-up mechanic's skill, a single custom-production specialist's skill? Do they mean a single one of the direct skills? Do they mean all the direct skills that compose one of the simpler jobs, plus all the technological and other indirect skills that are necessary to make the job intelligible? We hear much also of "skilled," "semiskilled," and "unskilled" occupations. Does a "single skill" mean a "skilled" or "semiskilled" occupation? What is an unskilled occupation? The university president says, "If a boy wants to go to work for Henry Ford he will be better prepared if he has

had no vocational training at all." Inasmuch as a well-informed university president would know that Mr. Ford operates elaborate vocational schools covering many years of training for toolmakers and materially assists public vocational schools, one is led to guess that to the university president vocational education may possibly mean something like what is meant by the advocates of training for a "single skill."

Over and above the pressing necessity of training all kinds of skills stands out the necessity of training the versatile custom and mass-production mechanics, technologists, and supervisors with complete repertoires of skills in their lines of work. We should not discount too readily the tale of Germany's million or more apprentices learning complete repertoires of handcraft custom-production and mass-production skills, as compared with our drop from 140,000 in 1920 to 90,000 in 1930 and to still less in the depression. It is also well to remember the reports brought back from England of a tremendous increase in apprentices and in the thoroughness of their training while the very schools and factories in which they were being trained rocked under Nazi bombs. The resourcefulness to rebuild the world after this war is over and to compete in the markets of the world will not come from men whose total economic assets are wrapped up in a "single skill."

It ill behooves anyone to disparage the rapid and often striking accomplishments of the schools in training W.P.A. workers for employment in defense-essential occupations. But one contemplates regretfully that if in July, 1940, this nation, instead, had made a campaign commensurate with the crisis that faced us to enrol our mechanically gifted youth in thorough schooling supplementing some sort of apprenticeship, our precious school mechanical-training equipment would not be so worn and we would now have a mighty host advanced almost three years into the versatility of their highly skilled occupations, earning their wages, turning out needed military craftsmanship, and setting their faces in determined confidence toward the profound readjustments that must come with the peace.

b. Training for Operative Jobs Generally Not a Public Industrial-Education Function. There is no need of spending badly needed public vocational-education funds on functions that can be performed better by other forces. Mass-production operatives are often highly specialized to one employer's work. If the schools should train mass-pro-

duction operatives, as such, in their direct skills, the schools would have to procure somehow the same mass-production equipment and the same amount of it per operative as the industrial plant. In some industries this would require as much as $50,000 worth of equipment per operative to be taken out of production, often war-essential, and, if not given to the schools, to be purchased by them. Mass-production operations usually consume great volumes and values of raw material in short spaces of time. If the school sells the product, it puts itself into competition with its employer and labor constituency. If it scraps the product, it is guilty of waste and is making the cost of training prohibitive. If the employer should furnish the raw materials and receive back the finished product into commerce, the employer, under the federal wage-hour law and state labor laws and their interpretations, would still have to pay the operative trainees the same minimum wage as he would have to pay if he trained them in the obvious manner in his own factory. *The training of mass-production operatives for their direct skills is generally regarded by employers and educational and labor authorities as the sole responsibility of the employer.*

Occasional exceptions to this sweeping principle are made when the training conditions are such that the foregoing objections can be successfully met. One is training for garment manufacturing power-machine operation when some public agency, often a relief agency, furnishes the raw material and uses the finished product and when the training is not confined to any one employer's requirements. But the class of mass-produced goods consumed in volume by a public agency or institution and on which school training in direct production skills is feasible seldom affords training on the finer materials needed by a person seeking private employment. Garments, shoes, and bedroom and dining room furnishings are striking examples.

c. Training Mass-Production Operatives for Expanding War Industries. Much of the present training by public schools of mass-production operatives in the direct skills they will or may use in war-production plants in the first haste of the war emergency has seemingly had to be more of a *rejective* process than even *a selective* process, to say nothing of a *training* process. Indeed in extreme instances the process through which the learners are put consists of what might be called repetitive aptitude testing. For the learning takes place because of the pupil's *trial and error* repetitive practice rather than by the instructor's *teaching* of insight into improved

practice. The trainees may use up no material or, if they do, they may produce only scrap. They may repeat hour after hour repetitive motions that simulate the motions on the war-industry jobs which may be given them if they thus indicate they have the necessary *specific skills*, as well as that body of *concomitant virtues* of health, cleanliness, neatness, safety, persistence, co-operation, and the like, which we call good *work habits*. The learner either gets these specific and concomitant habits by himself or he gets out. The closer the approaching shortage of such readily trainable mass-production operatives the more earnestly such public schools by genuine, individual teaching procedures must salvage otherwise rejected applicants. For it does seem doubtful, even as a war emergency, that such a rejective process can be justified as a public expense, particularly a public *school* expense, especially in communities in which the production plants have gotten equipment in place.[5]

In the pre-employment training for many of these war mass-production jobs the individual trial-and-error learning curves seem to mount rapidly to the final plateau. There would seem to be no advantage as regards specific skills in holding the prospective employee in such trial and error practice at public school expense beyond this point, except that the employer may not need his labor immediately. Indeed, when the employer runs short of mass-production operatives, sometimes he seems to have little regard for how long the trainee has spent in preliminary public school training. The value to the employer, therefore, of many of these pre-employment training schemes seem to be as a reservoir of labor of carefully culled concomitant virtues rather than of trained specific skills. Such a public school reservoir does not entail the payment by the employer of the trainee's wages, as would be the case if the labor were held in a reservoir in the employer's plant.

Whether or not the advantage to the plant and to the country of this reservoir of mass-production operatives at public school expense is real or only apparent, how long in advance of the securing of jobs

[5] "In our opinion short term pre-employment training such as provided by N.Y.A. and the national defense-training program is becoming relatively unimportant for those companies which have adopted training-within-industry's program of breaking down jobs and training on the job. Most of our positions filled by new employees do not require pre-employment training." In a telegram from an employment manager of a large military aircraft factory, April 2, 1942.

in the plant the building up of such a reservoir may be advantageous, and the wisdom of the public schools assuming responsibilities for such a reservoir and the blame if the plans go awry are questions that the immediate future will doubtless answer.

d. Training for all Skills of Other Jobs a Public Industrial-Education Responsibility. Generally the local, state, and federal laws and authorities seem to regard as the rightful responsibility of the industrial-education systems the training in the direct, control, and service skills of the custom mechanic and custom specialist; in the control and service skills of the mass-production maintenance mechanic, mass-production supervisor, and mass-production technologist; and in the few control and service skills needed by the mass-production operative.

For America to prevail in this rapidly changing mechanized war and industrial civilization we must strive to find and train every potential direct, control, and service talent to whatever level of job in which it will grow to the fullest. Only the employers and the public schools jointly can hold away the disastrous portents of the literally awful shortage of abilities for greater industrial production responsibilities.[6] The capable operative must be trained as a set-up mechanic; the set-up mechanic must be trained to be a production supervisor, a technologist, a custom-production specialist; the custom-production specialist must be trained to grow into the all-around mechanic; and so on through the industrial hierarchy. This must be or our country, democratic or otherwise, cannot prevail. *Public industrial education as a democratic necessity must constantly promote training that will raise the intellectual level of the participation of the industrial worker in his job.*

e. Competition between Industrial Education and Engineering Education. With the spread and development of industrial-education systems into industrial communities of all sizes, the youth and adult can now receive from the industrial education classes, especially when supplementary to their employment, as much training that they can use locally in supervisory (personnel) and technological skills as they could get by attending an engineering college. This seems to be bringing about an increasing competition between the eighteen- to twenty-year-

[6] "However, there is a definite need for upgrading into the higher positions. This is greatly facilitated by the supplementary courses in the public schools under the national defense-training program." In a telegram from the same employment manager of a large military aircraft factory, April 2, 1942.

old non-college youth and the twenty-two- to twenty-four-year-old college youth for the jobs that heretofore were the beginning industrial stepping stones of the college youth. This competition has been noted in places between the present collegiate engineering defense classes and the industrial-education classes.

f. Ultimate Benefits to Engineering Education in the Training for Junior Industrial Technician Jobs. Business executives familiar with the myriads of problems challenging American peacetime and defense industries know that they can be met only through an increasing industrial personnel grounded in the ideals, imagination, and procedures of scientific research. Many engineering educators therefore are welcoming this encroachment by the industrial schools upon the training for technological and personnel control jobs as a means of freeing the engineering schools to train selected scientific minds for genuine engineering service.

With all this as a background, it is to be expected that here and there over the country there are evolving many industrial education curriculums for the major rather than incidental object of training—what have come to be called in some states—*junior industrial technicians.*

2. As to Intimacy Between Job and Schooling

a. Co-operative Training. From the concept of the industrial school as the co-ordinator of all the potential industrial educative forces within the community, it follows that there ought be many training schemes, conducted on either public or private property, using either public or private teaching personnel and equipment. Such training, depending upon the co-operation of the employer or union, is generally designated as *co-operative training.* The following types are readily identified in all parts of the country—in little hamlets and in great cities.

(1) *Co-operative leisure-time schooling,* as its name implies, is held during the *leisure-time* of the pupil away from his usual occupation. It is intended primarily for adult employees. Such training is conducted in business-district industrial-school buildings, in school buildings adjacent to industrial plants, in union halls, in factory offices and testing laboratories, right in the production rooms, and oftentimes at the very production machinery itself. The teachers may be employed full-time by the school

system, or on a leisure-time hourly basis incidental to their major employment in the line of work they are teaching. In such schooling the course a person follows is almost always intimately related, that is, *supplementary* to the occupation at which he is already earning his living, rather than *preparatory* or *pre-employment* to another.

(2) *Co-operative part-time schooling,* as its name implies, signifies that the pupil attends school during a *part* of the usual daylight working *time* of the occupation in which he is employed. It is intended primarily for youth employees, although there are plenty of instances of short intensive classes for even key adults, such as foremen and set-up mechanics, conducted on company time. Co-operative part-time schooling, otherwise, is conducted under approximately the same conditions as co-operative leisure-time schooling. Because of the longer legal working hours, the lower legal minimum wages, and the high demand for youth labor prevailing prior to the great technological revolution between 1920 and 1930, over half the states have enacted *compulsory part-time schooling laws.*

b. Opportunity Training. In almost every community of the United States from the greatest city to the smallest hamlet with a handful of industrial workers in any one line or allied lines may be found, oftentimes in operation all hours of the day and night, industrial-training classes for industrial employees who are stimulated to attend by no other pressure than (1) their own ambitions to improve themselves and get ahead, or (2), in the case of younger youth in some states, the compulsory part-time school laws. This sort of an industrial training is here referred to as the *opportunity* type of industrial training, borrowing the term from the name given by Miss Emily Griffith to her great and successful pioneering adventure in Denver.

The time and subject-matter schedules may run the gamut from well-rounded general and vocational curriculums for all youth employees, or youth otherwise out of school, in the community who attend on unvarying daily schedules during their usual working hours, to short intensified vocational courses for employed youth and adults who are welcomed with the slogan "Come when you can for as long as you can any hour of the day and night."

c. Full-time Preparatory Training, as its name implies, signifies

schooling that occupies the pupil *full time* during the regular working or school hours and is preparatory to hoped-for employment. Considering all the situations in which co-operative-training schemes and opportunity-training schemes can be made to function, there seems likely to be a growing demand for industrial training on a full-time preparatory as distinguished from a leisure-time or part-time supplementary schedule. Indeed, with the falling off in employment opportunities for youth during the decade following 1929, compulsory part-time supplementary and preparatory occupational training shifted into full-time school attendance. Much of this demand for full-time training schedules at the moment, to be sure, is for short, intensive courses for the pre-employment training into war industries of unemployed people from war-depressed industries and of women never before in the labor market. Aside from such short, intensive courses, it seems obvious that the emphasis in full-time preparatory training must always be upon inexperienced youth not yet under the full necessity of earning a living. Because of this inexperience, the full-time preparatory training must attempt, as well as its resources permit, to duplicate within the four walls of school buildings the employment realities of the co-operative schemes. In this lies the strength of the full-time schools that function industrially, and the weakness of those that substitute the vain shadow for the substance.

3. As to Intimacy between Industrial Training and the School System

a. Separate Industrial Schools. In many of the largest and, with increasing frequency, in smaller cities are found—again for lack of a name—*separate industrial schools*, often called *vocational schools* or *trade schools*. Increasingly, with the increasing employment standards and with the increasing difficulties placed in the way of the employment of the type of youth who formerly went to work at the end of the age of compulsory full-time attendance, the separate opportunity type of part-time school is being converted to a separate full-time preparatory school or a combination of the two.

Most of these separate vocational schools offer training in several or more industrial occupations. However, in a few large cities these separate vocational schools may be specialized as to the industrial occupations that they teach and be located in the specialized industrial districts to which their training relates.

Many a community cannot possibly set up training schemes for the few periodically needed new workers in each of the many occupations that keep the community functioning. To meet this condition so common to all the states, several states now operate such training on a state basis. From the success of these schools, many industrial educators see in the next few years the incoming of *state district trade schools*. Each school would serve its own geographical area in all the industrial occupations with complete repertoires of highly developed skills that are in sufficient demand in the area. Each school would also serve the whole state as regards such less generally distributed occupations in which its geographical area specializes.

b. Separate Full-time Industrial High Schools. With the difficulties placed in the way of youth getting jobs, and because of the degree to which the idea of a high-school education is entailed upon the American people, and in view of the myriad ways in which state school laws and city school rules penalize the atypical in secondary-school administration, it is not to be wondered at that many former separate part-time and separate full-time vocational schools have become *separate industrial high schools*. Usually they are called *vocational high schools*. Fortunately, however, for many such schools, with the unfortunate general slacking-off in high-school academic scholarship, they have not had to dull the definiteness of their occupational objectives nor the precision of their means to attain them.

c. Full-time Industrial Education in General High Schools. Here and there—perhaps more frequent in small cities than in large—are general high schools so intimately in touch with the details of the work of their communities and the hopes and aspirations of their working people that any full-time or part-time secondary industrial-training schemes in which they would engage would have fair chances of success.

However, the muddled objectives and slipshod work of many high schools prejudice industrial education ventures—especially full-time ventures—from the very start. Having no clear-cut conceptions of their functions, usually poorly supported, their administrators have little compunction in going after federal and state industrial-education aid for their industrial arts shops. Hence we witness the all too frequent spectacle of what might have been a decent industrial-arts education shop smeared over with the dishonest seeming of a full-time vocational education label. It is neither vocational nor industrial; it

is not art; nor is it education of any sort. It is nothing—and the pupils and patrons know it.

But the fact remains that in the smaller cities vocational education for youth must center largely around the high school. The farther the high school from the needs of the people, the greater their need for vocational education to bring their high school to reality. A few occupationally serious pupils making liaison between the realities of employment and the high-school faculty and student body often are the little leaven that leaveneth the whole.

4. As to Paralleling and Regulatory Agencies

a. Paralleling Agencies. As the United States passes from a nation of bountiful natural resources and crude pioneering wastefulness to a nation more like the European ones that must husband their resources through precise skills, more and more every American social and economic problem becomes a recognized or unrecognized educational problem. We therefore witness many state and federal social and economic agencies whose function it is to help the transition from a pioneering and somewhat economically maladjusted America. Some of these agencies are confronted with educational problems that they either do not sense, or that they recognize and try to solve by themselves, or in which, as they should, they demand the services of the public schools. Hence come the National Youth Administration, the Civilian Conservation Corps, the Farm Security Agency, the Rural Electrification Administration, the Civil Aeronautics Authority, the Agricultural Adjustment Administration, and other agencies *paralleling* the public schools.

b. Regulatory Agencies. Now the more effective the educational scheme, rightly used, in solving these problems, the more dangerous the educational scheme misused. Hence around the schools, as the schools penetrate more deeply into vital economic problems, are springing up, in unconscious tribute to the efficacy of educational procedures, agencies for regulating the economic conditions under which education must carry out its mission. Hence come such *regulatory agencies* as the Federal Apprenticeship Committee, the state apprenticeship committees, the Wage-Hour Administration, and the United States Employment Service with power to prevent economic misuse of public education, with power to make straight the economic way for public education, and, by the same token, with power to hinder public education.

c. A Critical Issue. Thus around the expanding co-operative-training schemes because of their effectiveness in addition to the present strict educational administrative regulations, we shall probably find increasing regulations and the necessity of increasing intimacy of relations with these paralleling and regulatory agencies. American public educators are at a triple crossroads: (1) They can in a vacuum of unreality wave aside as casual matters the serious, neglected social, economic, and educational problems that bring the newer agencies into being. Thus, they can claim that these matters are proper ones for the schools to solve and that the newer agencies are mere poachers on the schools' preserves. This way lies confusion and defeat. Or, (2), public educators can work with the paralleling agencies to find, define, and pass on to the schools the educational phases of their problems. They can work with the regulatory agencies to adopt sound and abandon their unsound regulations affecting education. Or, (3), exasperated and thwarted, the educators can withdraw into cloistered full-time education as a thing apart from the pulsating problems of life and turn the more vital aspects of education over to the paralleling federal and state agencies, as European educators have done. This way lies the madness of a dual or multiple federal school system, controlled by special interests and removed from the immediate control of all the people.

My prediction is that the American general public school staffs and the American vocational-education staffs will work and fight their way through to the preservation of the state and local public schools as the one central vital force in preserving the American way of life.

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CHAPTER XVI

HOMEMAKING EDUCATION

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United States Office of Education
Washington, D. C.

Never was there a more important time to ask ourselves what kind of a world we want. Even in the midst of disaster, both the immediate and the future needs of young people must be considered for they are the future. Upon them depends the preservation or the loss of those values we hold most dear. Today's youth and children deserve and must have the best preparation they can be given for living in the future world. When we do something to make a better, happier home life possible, we are reaching out and touching the future of America.

Today American educators need to stop and evaluate how well they are doing the very great task of preparing for the vocation of homemaking. Upon the success in that vocation much of the happiness of adults as well as the adjustment of youth to life and living depend.

In the home the ideals involved in learning to function as a democratic citizen can be instilled. There one can learn to act in the interest of the group, to respect the rights of others, to plan and work together for a common cause, and to use intelligence in the solution of problems. Or the opposite qualities may be learned at a very impressionable age and one become an autocratic, unco-operative citizen and a liability in a democratic country.

I. THE NEED FOR HOMEMAKING EDUCATION

Homemaking is a vocation of universal reaches. No school can afford to neglect its opportunity to help prepare present and future homemakers for this all-important job. This vocation is found in every community. Unlike agriculture or a trade or a business, it is found in the large city and in the small town, in the rural areas and in the urban areas. In any locality a large proportion of the adult

women will be engaged in homemaking[1] and the greatest proportion of the rest of the population will be living in these homes. So, it is not alone the individuals busy with the actual task of homemaking who are influenced by the home. Success in this vocation is important not only to the individual but to the community and to society as well.

The extent of the responsibility for education for homemaking on a national basis may be considered by comparing the number engaged in this vocation with the number engaged in other types of occupations. Of all persons fourteen years of age and over in 1940 approximately 28,932,000 women and men were engaged in housework in their own homes; 45,166,000 were employed in the labor force except on public emergency work. Of this latter number 8,475,000 were in agriculture, forestry and fishery; 10,573,000 in manufacturing; 8,113,000 in transportation communication and other public utilities; 7,539,000 in wholesale and retail trade; 4,009,000 in personal service; 3,318,000 in professional and related services. Thus, viewed merely from the standpoint of numbers, there were over half as many in homemaking as in all other vocations and about three times as many in homemaking as in any other given type of vocation.[2]

1. Bases for Judging the Effectiveness of Homemaking Education

In studying the vocational program in his school, the school administrator soon discovers that there are certain educational implications in a program dealing with "learning how to work" in the home which are similar to problems in training people for occupations where wages are paid or for occupations where marketable products are produced. Other implications are decidedly different.

Success in the job of homemaking must be judged by such intangible outcomes as the quality of family life, the happiness, health, and sense of security of the family members, or the ability of the family to adjust satisfactorily to emergency demands or unexpected catastrophies. No one hires or fires a homemaker. In the home no rigid qualifications are set by an outsider, no wages are paid, though

[1] In 1940, 57 per cent of the total female population fourteen years of age and over were reported to the Census as engaged in housework in their own homes. Population Release Series P 10, No. 7, table 3, p. 6, April 16, 1942.

[2] Bureau of the Census Release on Employed Workers fourteen years of age and over by Industry Group Series P 10, No. 11, table 1, p. 3, April 29, 1942.

the wages of the earner may be well used or wasted by the homemaker. No marketable standards need be maintained. Each home sets its own standards.

Although the effects of changing social and economic conditions may be different for the homemaker than they are for the wage earner, nevertheless, training for homemaking as well as for any other vocation must be constantly adjusted to the variations in the demands of the job. Changes in costs of living without changes in income for most families demand either a greater home production of goods or much more skilful buying. New products on the market demand information as a basis for judgment as to whether these are a good buy for a given family. New forms of equipment and tools demand changes in one's skills as well as one's information.

In turn, the demands and vicissitudes of other vocations will be reflected in the home and make the task there either much easier or more difficult. A regular and adequate income makes the management of the business affairs of the home less difficult. If the wage earner loses his job, funds for maintenance of the home are cut off. If the wage earner doubts his ability to succeed, the resulting tensions create difficult problems in the home. A shift to another part of the country where living conditions are different makes many adjustments in homemaking necessary.

2. Vocational and General Education in Homemaking

Home Economics, the school subject through which a great deal of the training for homemaking is given, has a real contribution to make (1) to general education for home living, (2) to education for the vocation of homemaking, (3) to the employability and efficiency of people in other vocations, and (4) to education for those wage-earning occupations requiring the same skills, information, or judgments needed for homemaking.

First, one of the important parts of each individual's living is his life as a member of a family. Preparation for effective participation in home and family life should therefore be a phase of the general education of all youth. As a member of a home he shares in certain family activities and carries individual and personal responsibilities. These include many personal problems: understanding oneself and maintaining good relations with family and friends; selecting food for oneself which maintains adequate nutrition; buying clothing, food,

and recreation; preparing food for oneself and others; managing one's money; caring for clothing and for one's own room; caring for younger brothers and sisters; selecting and arranging equipment and furnishings for one's own room or the family living room. In such ways both boys and girls share in home and family living and both need help in learning to function as co-operative members of a family group.[3]

Second, those with even a short experience in family living know that the quality of family life depends much upon the homemaker's ability to maintain wholesome relationships among the members. It depends as much on the wise use of incomes as on what the family earns. Thus, beyond general education in home living, most high schools and educational programs for older youth and adults should offer a vocational program which is directed toward preparation of the homemaker for her responsibilities. Such a program involves a deeper, more thorough study of the various aspects of home life than those listed above as part of the general education program. It is more comprehensive for it is directed toward the development of abilities for which the wife and mother is usually responsible. It involves parental responsibilities as well as the many phases of management which make the home an asset in a changing social order. Preparation for these family responsibilities should constitute the vocational program in homemaking.

Third, some of this training so needed for personal and home living and for homemaking is basic also for success in a wage-earning job. Those phases of general education for home living which result in better adjusted, more attractive, friendly, co-operative individuals who spend their money wisely, select becoming clothing, and care for their health will also be an asset to the individual as a wage earner.

Fourth, certain homemaking skills or certain types of information essential for home living can also be used in such wage-earning occupations as food preparation and service, dressmaking, care of children, nursing, domestic service, and laundering. So, too, knowledge of textiles, foods, clothing, and design needed by the homemaker are also important in the retail selling of foods, clothing, yard goods, and household fabrics. Although certain aspects of the training are similar, differences in the demands of the job must also be kept in mind. The

[3] *Education for Family Life,* pp. 13, 14, 160-173. Nineteenth Yearbook of the American Association of School Administrators. Washington: American Association of School Administrators of the National Education Association, 1941.

wage earner works for an employer who determines the standards; the homemaker for her own family. A given skill demanded in a wage-earning job may need to be more highly developed than this same skill for homemaking. Many skills and other abilities and understandings are required of the homemaker.

3. Women Need Training for Two Vocations

Many young women become wage earners as soon as industry will employ them; some become homemakers soon after they leave high school. Other women because of economic necessity or special interests are employed outside the home while they are still responsible for the management of a home. Still other women either enter or re-enter employment after their children are grown and they have more time for carrying on a wage-earning job. In planning the secondary-school and the adult-education programs for girls and women all of these vocational probabilities must be kept in mind. Beyond a general education responsibility in home living, the schools have a dual vocational responsibility to women—that of training them for homemaking and for some wage-earning pursuit outside the home.

II. Scope of Homemaking Education

As in any other vocation, the necessary educational preparation for homemaking is determined by the demands of the occupation. Although it is neither possible nor desirable to separate the parts of the job, either in training or in practice, a discussion of each aspect of the vocation of homemaking may be a helpful basis for consideration of the extent to which some aspects are neglected and other aspects may need to be curtailed in the educational program.

1. The Managerial and Business Aspects of Homemaking

Money management is an aspect of homemaking which is closely associated with success. Disagreement on financial matters or poor money management has been a causal factor in the disruption in many homes. Also fully as important as money management, particularly in homes where there are several children or in homes where the woman is engaged in much community service, is the management of time and energy.

In the management of time, energy, and money a homemaker with children should be conscious of the actual and potential contributions

of various members of the family group. She must be able to plan a division of responsibilities so that each member shares in ways commensurate with his interests, capacities, and abilities. Provision should be made also for individuals to develop new interests, new abilities, and basic judgments as the work and the financial problems are shared in new ways in the home. Habits of carrying responsibility, habits of work, and habits of thoughtful consideration for others developed in the home by a good manager can be a real asset to youth and adults outside the home.

Thus the effectiveness of a homemaking program must be judged partly on the basis of whether it is developing homemakers who are good managers. Is the homemaker or prospective homemaker developing abilities to carry on the business of the home in an efficient way? Necessarily this involves: keeping accounts; planning expenditures; buying clothing, food, household equipment, and house furnishings; buying services such as laundering, dry cleaning, recreation, education, nursing; knowing where and how to cut costs while still getting necessities. In addition, the effective home manager must be able to judge when and how to use time and energy to produce goods or to perform services rather than to buy them. Financial management is an exceedingly difficult job for a very large proportion of the population.[4]

2. Personal Relationship Aspects of Homemaking

Whether a family lives on a farm, in a rural town, or in a large, crowded city makes very little difference so long as the people in the home live together happily. Clearly an important part of the homemaker's responsibility lies in her ability to deal with problems involving personal relationships among family members and between the family and other social groups, all important bases for any lasting family happiness. Ignoring this aspect of homemaking education would be leaving out the core for which all of homemaking exists. As James Plant has said:

> Nothing has been more thrilling than the growing recognition on the part of the home economics group that all the things that happen in the house are only the expression of the spirit of its family. This has raised, for you, one of

[4] "Roughly 65 per cent of all families received less than $1,500 in the year 1935-36, 42 per cent less than $1,000, and 14 per cent less than $500." (*The Consumer Spends His Income*, p. 4. Bulletin of National Resources Committee, 1939.)

the most difficult problems that appear in the matter of leadership—whether you are going to nurture the spirit that you find in each family group or whether you are going to try to impose some certain sort of growth.[5]

The great importance both for adult life and for society of patterns of living developed in the home is more generally recognized in recent years. Lawrence Frank points out that the courts now realize the fact that often delinquents and criminals are the end products of a neglected, mistreated, unhappy, underprivileged childhood. He says that where there are maladjusted children, it is often because the adults have carried into their family life "the distortions and conflicts they suffered in their own childhood." On the other hand, individuals who are an asset to a democratic society come from homes where the members of the family have a wholesome respect for each other, good co-operative working relationships, and rich, meaningful living because of happiness found in daily tasks performed for others in an atmosphere of acceptance and affection.[6]

3. The Manipulative or Skill Aspects of the Homemaker's Job

On the skill with which household tasks are performed depends many other aspects of home life. The homemaker who serves poorly cooked, unattractive food, whose own clothes or whose children's clothes are dowdy, whose home is disorderly and not well cared for often finds her children and husband irritable and herself in a state of confusion. This makes the maintenance of good family relationships and the efficient business management of the home difficult if not impossible.

Because it is impossible for most homemakers to purchase all the products and services needed, all homemakers need some skills and some homemakers need a great many. Where money is limited, paid service difficult to secure, or the quality of purchased products or services unsatisfactory, the homemaker must produce the goods and perform the services in order to get the satisfactions needed for the family.

[5] James S. Plant. "Democracy Turns to the Family," *Journal of Home Economics,* XXXIV (January, 1942), 1.

[6] Lawrence Frank, "The Need for Education for Home and Family Living," chap. i in *Family Living and Our Schools* by Joint Committee on Curriculum Aspects of Education for Home and Family Living. New York: D. Appleton-Century Co., 1941.

Skills needed by the homemaker include the following: the physical care of a child; the care of the sick in the home; the care of the house, its furnishings and equipment; the preparation, preservation, serving, and care of food; the construction and care of clothing. Possession of these essential skills makes it possible to meet family needs at a reduced money cost by substituting work for money which must be used when food or clothing is purchased ready-made or the services of a nurse, a laundress, a seamstress, or a maid are hired. The 1940 census listed 2,327,000 employed in domestic service. Even homemakers who have maid service need to understand how much time is required for a given type of activity and have skill enough to assist employees in learning those household tasks in which they are not proficient.

4. The Scientific Aspects of the Homemaker's Job

When people understood less about the science of nutrition, the chemistry of cookery, the psychology of human behavior, and the physics underlying equipment and housing, and when there were fewer laws affecting the home, less knowledge of psychology and psychiatry, and a less complex social and political order, it was more possible for parents to give their daughters the training needed for homemaking.

Today the general public is becoming aware of the relationship between good health and good food. What used to be dismissed as laziness has now been proved in many instances to be the result of an inadequate diet. Because many foods are produced from soils varying in mineral content, and because many manufactured foods are so highly refined that important nutritive elements are destroyed, it is essential that the homemaker have a sufficient knowledge of nutrition to select a diet which supplies the proteins, minerals and vitamins needed for the health of her family. Families without gardens, and with very limited incomes, find this task especially difficult. Furthermore, even though foods which supply the various food elements are purchased, many of the nutrients can be and often are lost through improper cooking. A great deal has been learned in recent years about how to cook so as to retain these nutritive values. An understanding on the part of the homemaker of the science as well as the art of cookery makes possible a real contribution to the health, happiness, and welfare of the family.

New fabrics requiring special methods of laundering, of spot removal, of dry cleaning and pressing have appeared on the market. The loss of garments ruined through the use of the wrong methods of caring for them can disturb the family budget seriously. So, too, the ability to test quality and to insure a wise purchase is important to housewives whose cash incomes are limited.

An understanding of scientific facts and principles is also essential in choosing and caring for many types of home supplies and equipment. The ability to judge whether certain kinds of mechanical equipment are durably constructed is an important part of buymanship. The homemaker is called upon to decide questions in which an understanding of the principles of physics, biology, and chemistry are important: What kind of vacuum cleaner is best for a small apartment? For a large house? Which type of utensil is best for long, slow cooking? Which for quick heating? How can a house be adequately insulated at low cost? What kind of storage space is adequate for keeping both woolen and cotton garments? Will a given method of food preservation be safe for a given food?

5. The Psychological-Social-Political Aspects of Homemaking

Just as the findings of the physical, chemical, and biological sciences are now needed for homemaking, so the homemaker needs to understand and apply the findings of the social sciences. The social problems arising in the present complex industrial society, the psychological problems existing in human relations and parent education, and the interdependence of the home and the larger community are all of immediate concern to the homemaker.

One of the most important aspects of a homemaker's job involves the development and maintenance of wholesome attitudes, both on the part of herself and her family. To achieve these, she needs a real understanding of the psychology of human development. Is the three-year-old who asks a great many questions a nuisance, a prodigy, or a normal child? What types of responses to these questions will help him grow in the most satisfactory way? Is the sudden change from a communicative to an uncommunicative boy a normal one for an adolescent or does such a boy need special help in making desirable adjustments? Why does the homemaker, as a parent, fail to adapt her behavior to the new relationships growing out of the marriage of a son or daughter? How can she make this adjustment so that all con-

cerned will be happier? Although these and many other questions like them may be answered wisely by the exceptionally well-adjusted parent, for many, an understanding of child development and of human behavior is essential in avoiding unnecessary conflicts and in maintaining better relationships.

In the early days most of the supplies needed for the family were available on the home farm. Now the family food and clothing come from many sections of the globe and represent the labor of many in industry, production, manufacture, and distribution. To know "what is in a can," or whether a product is "a good buy" is no longer simple. Obtaining a sanitary milk supply, meat from healthy animals, clothing labeled for fibre content—all involve joining forces with other interested people in the community, state, or nation. Urban living, multiple-family dwellings, mass production and rapid transportation have resulted in many new problems. Under such conditions the homemaker needs as never before an understanding of the effects on family life of other social and economic institutions and organizations. As a homemaker she also needs to understand such things as the laws affecting her home and her family, why laws essential to her family's welfare fail to pass, and her responsibility as a consumer buyer. As a parent she should be able to judge the results on the various members of her family of the pressures of the war, the radio, the newspapers, the pulp magazines, the movies, and advertising.

Today the adequate protection and care of the health and welfare of the family requires a knowledge of the social as well as the natural sciences involved in the homemaker's job. For this reason the educational program in homemaking must be so developed as to give an understanding of the application of all of these sciences to the home.

6. The Artistic Aspects of Homemaking

Today, we see everywhere manifestations of the desire to create beauty, to go beyond the mere earning-a-living job and do "work" for the sheer joy of creation and accomplishment or for the satisfaction of being of service to others. So it is with homemaking too. Homes must be well-managed, good personal relationships must be maintained, homemaking skills must be acquired, scientific approaches must be considered, social-psychological and political influences must be recognized—yet all of this being true would not be enough to safeguard happy, satisfying home living if the love of beauty were denied expres-

sion. The homemaker must have many aesthetic appreciations and artistic skills if the greatest satisfactions in home and family life are to be attained.

Thus, the homemaker must accept the responsibility for choosing and wearing becoming clothing herself, for helping her family do so, and for selecting and arranging the house, its surroundings, furnishings, and equipment in an orderly, attractive, and aesthetic manner. She also needs the skills and judgment essential to creative expression through clothing, through meal planning, food preparation and service, and through the making of furnishings or other home crafts.

To lose sight of these possibilities for self-expression is to take much of the joy out of homemaking. Homemakers are both more interesting and happier if they take pleasure in planning and preparing well-balanced, well-cooked, beautifully served meals; in planning and making attractive clothing both for themselves and their children; in canning and preserving foods; in weaving or some other craftwork; and in creating beautiful things for their families and their friends.

III. Groups Reached by Vocational Program in Homemaking

Individuals and groups at all school levels from the elementary school through the college need better basic or supplementary training in homemaking. Although it is generally conceded that pupils should have reached at least the age of fourteen before they are mature enough to profit by vocational education, some localities have overage pupils in the elementary school who need to be prepared for the homemaking responsibilities many of them undertake when they drop out of school. The secondary school reaches pupils at the adolescent age when ideals for one's own family are taking shape, and independence from parents is more firmly established. This school level also must accept the responsibility for homemaking education for the many girls who will not enrol in higher institutions. The junior college should reach others who enrol there for a terminal education. Many adults face new parental responsibilities as children mature and social conditions change; they need help with this cycle of family problems.

Although the number and proportion of different age groups reached with a vocational-homemaking program through the schools cannot be accurately stated (total reports of enrolments not being available), figures submitted to the United States Office of Education regarding

such enrolments in 1940-41 in classes partially reimbursed through federal funds give some indication of the number reached in different groups.

During the school year 1940-1941, 872,000 individuals were enrolled in federally aided vocational-education programs in homemaking. This included 545,000 persons in day-school classes, 245,000 adults and 81,700 youth in part-time classes. In addition, several thousand youth were reached through home-economics classes in the training program for youth employed by the National Youth Administration. The number enrolled in such classes from July 1, 1941, to January 31, 1942, was 18,458.[7] This total of approximately 900,000 individuals enrolled in homemaking programs does not include those enrolled in vocational programs financed wholly by state and local funds. These are not reported to the United States Office of Education.

In 1939-40, 8,136 schools offered homemaking programs receiving some federal reimbursement; 9,025 other high schools offered home economics and did not receive such reimbursement. Some of the programs in these 9,025 high schools had a homemaking emphasis, some a general education emphasis on home living, and some offered only one or two phases of home economics, making no effort to prepare pupils for all parts of the homemaking or home-living responsibility. In addition, 6,024 high schools did not offer any home economics at all. Similar figures available for 1938-39 show that about one-fourth of the high schools did not offer home economics. These, however, were the smaller high schools in which only about one-tenth of the high-school population was enrolled.[8] No data are available to indicate how much emphasis was put on home living in other subjects than home economics.

As the economic and social situation continues to change and more and more married women enter the wage-earning field, undoubtedly the trend toward men assuming more homemaking responsibilities will continue. This means schools will need to determine the extent to which boys and men are receiving training for their work in the home as well as for their work outside. In 1940-41, 14,000 high-school boys

[7] Data included in Annual Report for 1940-41, United States Office of Education.

[8] *Home Economics in Public High Schools*, p. 2, United States Office of Education Vocational Division Bulletin No. 213. Washington: Office of Education, 1941.

were enrolled in segregated homemaking classes reimbursed from federal funds. Seven thousand men were enrolled in evening classes.[9]

In 1939-40, 3,700 centers offered homemaking instruction to adults, 485 to part-time students, and 8,000 to day-school pupils.[10] Of these centers, 2,300 offered homemaking instruction to both day-school and adult groups, 280 to day-school and part-time groups, 120 to part-time and adult groups, and 220 to all three groups. One must conclude that relatively few school systems are carrying their responsibility for all age groups.

1. Overage Grade School Groups

Some cities and states are providing homemaking education for overage pupils in the elementary grades. These students, usually fourteen years of age or over, in many cases are retarded because of a language or some other handicap. Many come from families with limited resources which make it necessary for them to carry heavy responsibilities at home and to leave school to earn their own living at an early age. Frequently, too, girls from such homes marry young and, for this reason, need training in homemaking.

2. Secondary-School Pupils

At present the largest number of students reached with a vocational program in homemaking are in the secondary schools. This is justifiable for several reasons. Most of the population between fourteen and eighteen years of age is in the secondary school. Secondary-school pupils have reached an age of maturity enabling them to profit by such preparation. Two-thirds of the high-school graduates do not enter college and the high school must accept the responsibility for their vocational training. When the importance of the home as a fundamental unit of society is realized and the place of the secondary school in training for homemaking considered, it is apparent that the responsibility for vocational education in homemaking is still inadequately met. This neglect is even more serious because, in general, the schools have not yet accepted the responsibility for providing educational opportunities for adults. In 1938-39 about 40 per cent of the high schools had vocational programs in homemaking partially reimbursed by fed-

[9] From annual descriptive reports submitted to the United States Office of Education.

[10] Annual statistical reports to United States Office of Education.

eral funds.[11] Many other schools, even though they do have home-economics instruction, do not provide a well-rounded homemaking program. Other schools have no home economics. It is obvious that school administrators need to accept more responsibility for this phase of vocational education.

Clearly, preparation for homemaking cannot be given incidentally. The purposes of the program must be clear, and time must be provided for it. Of course the length of time actually required will be determined by the skill of the teacher, the facilities for training, and the adequacy with which general education in home living has been given. If the elementary and junior high schools have included general education in home and family living, the vocational program built upon this may be given in two or three years, provided approximately one-fourth of the school day is so utilized and this time supplemented by experience in carrying different responsibilities in the home.

Where the elementary-school program and the general-education program in the high school have little emphasis on home living, more time will need to be allowed for the vocational program in homemaking. Two-, three- or four-year high-school courses may need to be offered to give well-rounded training in all aspects of homemaking, half of the school day or double periods daily being spent in home economics, supplemented by courses in related science and in related art. In Iowa in 1940-41, eighty-two schools had two-year vocational programs, ninety-one had three-year programs, and two schools had a one-year program. Suggestions regarding time plans and ways of organizing the program may be found in bulletins from various state departments of education.[12]

3. Older Youth

Anyone who has any concern for out-of-school youth realizes that

[11] *Home Economics in Public Schools,* op. cit., p. 20.

[12] See for example: "Teachers Guide for Junior High School Home Economics and Vocational Homemaking in the Secondary Schools of Colorado." Denver, Colorado: State Board for Vocational Education, 1937; for outlines of two-, three- and four-year courses in "Courses of Study for Home Economics in Secondary Schools of Ohio." Columbus, Ohio: Division of Vocational Education, 1940; or outlines for one-, two- and three-year courses in "Home Economics," Bulletin 7-A, 1941, Secondary School Series. Jefferson City, Missouri: State Department of Education, 1941; or outlines for seventh and eighth grade work and for ninth, tenth, eleventh and twelfth grade work in "Homemaking in the Secondary Schools of Vermont." Montpelier, Vermont: State Board of Education, 1940.

many of their difficulties arise out of the conditions facing homes and families today. Likewise many studies show that youth themselves are deeply interested in problems concerning home and family life. In setting up an educational program for older youth an important place must be reserved for the problems of the home and family. The need for such training for youth is one of the most pressing facing American educators today. Since many high schools do not offer homemaking training, many out-of-school youth have had limited preparation for it. The normal interest of youth in establishing homes of their own, in getting the greatest possible satisfaction from their limited resources, and in providing for personal improvement are strong enough motives to insure maximum results from even a limited time spent on such training. Study of these problems not only makes these young people better homemakers but also more employable.[13]

4. Adult Education in Homemaking

Fortunately, more and more schools are accepting responsibility for adult education. The number, however, is still inadequate. Instead of 3,700 centers there should be a program in connection with practically every one of the 25,000 high schools and many of the 230,000 elementary schools.

Homemakers are continuously faced with new problems and with old problems which must be met in new ways. They find information must be kept up to date and choices in meeting situations re-evaluated frequently. In the area of homemaking not only new findings from research and new products, services, and equipment resulting from inventions and from mass production exist but also, as the family cycle changes, new problems arise in the home. From the establishment of the family to the final period of retirement new situations in which they may need help constantly face the family. These problems have been aptly described by Robert Foster.[14]

In any community there are homemakers who, even though they have had secondary-school or college training in home economics, need the help of teachers with up-to-date preparation in special aspects of homemaking. There are many other homemakers or prospective homemakers in most communities who need an opportunity for basic edu-

[13] See *Family Living and Our Schools*, op. cit., pp. 315-24, for descriptions of programs.

[14] Robert Foster, "Outline of Family Growth and Development." Detroit, Michigan: Merrill Palmer School (mimeographed).

cation which they failed to get when in school. During 1940-41 the adult homemaking classes in one city, Omaha, Nebraska, enrolled 10,221 women and men in classes where such problems were studied as: health, first aid, hygiene and home nursing (1,410 enrolled); family life, child development, adolescent psychology and infant care (2,367); charm and clothes, sewing and knitting (3,490); home furnishing and home improvement and the house (989); home management and budgeting (411); nutrition and food preparation (1,052); today's problems (502).[15]

Over a period of years one small town of 1,500 population provided training in the following phases of homemaking under the direction of the day-school teacher with the assistance of the school nurse and a trained homemaker living in the community: nutrition, three meals a day at low cost, making the most of the clothing dollar, planning use of time and money in the home, home care of the sick, preschool-child study, meals that satisfy, making use of clothing we have on hand, home furnishing and arrangement, home management, everyday art, understanding our teen-age, adult-child relationships in home and school, everyday hospitality, intelligent consuming, improving our home environment, homes in the defense program, clothes for the present. Over six hundred women have attended the classes offered in the last five years. In order to be sure the opportunities for study of homemaking are those needed in the community, a council of ten women assist the teacher in planning the program. This council has a representative also on the forum council which decides upon the policies concerning the entire program of adult education for this town.[16]

5. Junior-College Programs

The increase in the number of junior colleges from one hundred in 1920 to over six hundred in 1941 (with over 200,000 students enrolled in 1940) raises the question concerning their place in preparing students for homemaking. The study by Walter Eells revealed the fact that 75 per cent of the graduates of junior colleges do not enrol in higher institutions.[17]

[15] Data supplied by Mrs. Elizabeth Riner, Supervisor of Homemaking Education, May, 1942.

[16] Report of adult program at Story City, Iowa, supplied by Mary Lyle, Iowa State College, Ames, Iowa.

[17] Commission on Junior College Education, *Why Junior College Terminal Education,* pp. 60-65. Washington: American Association of Junior Colleges, 1941.

Administrators of junior colleges need to give serious attention to the inclusion of preparation for homemaking as an important phase of education for this group of youth. This need is apparent from the study of junior-college terminal education made in 1938-39. In the terminal curriculums reported by 293 junior colleges, home economics is listed as being offered only in 83; of the 41,507 students enrolled, only a very small proportion—1387 students—are receiving training in homemaking.[18]

No mention has been made here of the need for homemaking education as a part of a four-year college program nor of the needs of groups being prepared for teaching homemaking to youth and adults. It is apparent, however, that considering only the vocational needs of those fourteen years of age and over there is an unrealized opportunity for education which helps youth and adults carry effectively their homemaking responsibilities.

IV. Provisions for Effective Homemaking Education

After determining the groups to be served with homemaking education the school administrator is faced with the responsibility for making such provisions as will insure an effective vocational program for each of these groups. The first responsibility may be that of creating an awareness of the need on the part of faculty members and patrons. Guidance officers, high-school principals, teachers who have been academically trained but who have not been aware of the values and needs for education for homemaking, and parents who still believe that the program for high-school students should consist of the subjects traditionally required for college entrance may all need help in appreciating the importance of homemaking education for pupils. If federal funds are to be requested for the program, the conditions that are set up in the state plan for securing these funds must be understood.

1. The Teacher

The most casual review of the various aspects of the homemaker's job (pp. 269-75) is convincing evidence of the teacher's need for a broad background of training and experience. Most states require a preparation equivalent to that of a bachelor's degree with a major in home economics; some require a master's degree. In order to insure that this preparation is adequate in the various phases of homemaking,

[18] Walter Crosby Eells, *Present Status of Junior College Terminal Education*, pp. 238-39. Washington: American Association of Junior Colleges, 1941.

from one-third to one-fourth of the training required is usually in home economics, one-third to one-fourth in related sciences and arts, one-third to one-fourth in general education, and approximately one-tenth in professional education.

Because the teacher must not only have the theoretical background but experience in using these theories as well, such requirements as the following are often included: experience in taking the responsibility for the management of a home (some of this may be acquired in the college home-management house and some through summer-vacation experiences); experience with children of various age levels (some of this may be secured through the college nursery school, some in summer camps or in directing voluntary club groups, and some in student teaching). To this list of courses and experiences there may be added such personal qualifications as good health, interest in young people, attractive personal appearance, sensitiveness to social and economic problems affecting the home, and leadership ability.

2. Space and Equipment

In some of the first state plans for vocational programs in home economics, the minimum standards for space and equipment included a foods laboratory, a clothing laboratory, and a dining-living room. Other states required space for teaching home nursing and laundering. Such a specification of laboratories shows the influence of tradition from the science and manual-training emphasis given to earlier programs. As supervisors and teachers have recognized the difficulties involved in giving a home setting in such laboratories, they have changed their requirements. A few states from the beginning of the vocational program encouraged the use of cottages. No one form of equipment fits all situations.

3. Adequate Time in Teacher's and Pupil's Programs

The time arrangements necessary for day-school, part-time, adult, or junior-college education depend upon the adequacy of the previous training and experience of the students. The needs of adults who are homemakers with previous training and wide experience may be met by an opportunity for consultation with the teacher at school, at home, or in an information center. Other adults may need to enrol for actual instruction so that they can discuss questions with other homemakers and have the guidance of an experienced teacher. Young brides with little or no training often need intensive work on many phases of their

job such as meal planning, marketing, food preparation, budgeting the family income, furnishing the home on a limited income, and garment construction.

For the secondary school, several time arrangements have been used. For pupils who have had little previous training the program is often made up of two or three years of home economics offered for ninety minutes daily supplemented by sixty minutes daily of related general science the first year, related art the second year, and perhaps biology the third year. Where there has been an excellent elementary-school program preceding junior high school home economics, the three- or four-year vocational program which follows may combine experience in carrying through projects in the home with school instruction for sixty-minute periods daily. For all pupils in a homemaking program the time planned should make possible supplementing the experiences in the class with experiences in the home.

4. Provisions for Home and School Co-operation

More and more, educators are realizing that the school program which functions best is one adapted to the needs in the community and involving co-operation between teachers and parents. The plan of extending the employment of the teacher beyond the school year and the encouragement given pupils to carry out projects in their homes are helpful in developing such a program based on co-operative relationships.

Parents, teacher, and pupils—all need to understand the values which can come both from home experiences and from school experiences. Only by close co-operation can they be so planned that relations in the family are strengthened by the project and that the pupil carries the responsibilities which are built upon her training and are essential to her further development. In a well-planned program, the experiences in the home and the school complement each other. In the school the pupil learns the underlying principles of procedure and these principles are applied in the home. When difficulties arise the student brings her problems to school for further assistance or the teacher visits the home where parents, pupil, and teacher discuss the problem.

Although certain aspects of homemaking need to be included in every vocational program, some aspect may need much more attention in one community than in another. High-school pupils in communities where early marriage is the rule may need to emphasize factors important in selecting a mate, in determining costs of establishing a home,

in infant care, in meal planning and food preparation, and in the selection, construction, and care of clothing. In communities where most of the students go to college, special emphasis may need to be given to courses in child development taught so that they bring about a greater understanding of their own and others reactions, in personal nutrition, in consumer education and money management, in clothing selection, and in room furnishing. In rural areas such things as canning and preserving food and planning a garden to meet the nutritional needs of the family may need to be emphasized, while in urban areas marketing, clothing selection, and other aspects of consumer education may need to be stressed. Obviously a study of the practices and problems of the communities concerned is basic for the development of a sound program in homemaking.

V. Co-operation in Programs Affecting Homemaking

Success in a given vocation results from a complex of skills, judgments, attitudes, and information. Some of these vocational outcomes also have general-education values though they are taught as a necessary part of vocational education. Others contribute to vocational competency even though learned as a part of general education (see chapter ii). Moreover, the outcomes of training for a particular vocation may be of significance also in another vocation. A recognition of these interrelationships and the points of difference is of importance to administrators and teachers and, thus, to pupils. Homemaking education may be strengthened also by co-operation between school and community groups.

1. Homemaking and Agriculture

Some agricultural and homemaking teachers are aware of the similarity of their goals. A list of problems involved in farm-family betterment of concern to adults was made by a committee representing agriculture and home economics in the southern states. This committee believes that joint decisions need to be made by both the farmer and homemaker (husband and wife) in relation to each of these major points and should for this reason be a part of the vocational program of both.

Providing economic security by

Managing the family income
Arranging for credit

Developing earning ability

Securing food for the family by

Determining family food needs

Planning how fruits, vegetables, poultry products, live stock products, and other products needed for the family can be secured, processed, and stored

Disposing of the surplus products of the farm to the best advantage so that

Clothes may be purchased for the family

Repairs may be made on the home and farm equipment

Conveniences may be provided

Food and feed not produced may be purchased

Debts may be paid

Savings may be made and accumulated

Recreation may be had

Contributions may be made to worthy causes

Maintaining family health by

Developing and maintaining health habits

Caring for health of the children

Maintaining sanitary and hygienic conditions in the home and on the farm: Water supply, sewage disposal, and screens

Securing education for the family by

Participating in adult education programs

Planning education for the children

Co-operating in securing adequate school support

Providing books, magazines, and music needed by the members of the family for self-improvement

Helping promote better community educational facilities, such as public libraries

Conserving home and material resources by

Making and carrying out a farm and home conservation plan

Deciding how available funds should be used

Planning a division of responsibilities among the family members according to their special abilities and interests

Managing the farm-family business by

Understanding and appreciating the demands of both the home and the farm

Planning how to live together satisfactorily

Providing and maintaining a favorable environment by

Planning for the improvement of the house
Planning for the housing needs of the family as a group and for the individual members
Planning and providing conveniences for the home and the farm
Providing for the improvement of the farmstead

Providing for family recreation by

Encouraging and providing recreational opportunities for individuals, such as hobbies
Promoting home and community recreation, such as parties, singing, dancing, and plays
Encouraging family reading
Improving community recreational facilities
Providing for family celebrations and entertaining at home [19]

In scanning this list a person is convinced that not only agriculture and home economics but other school subjects as well can and should make significant contributions to the solution of many of these problems. The extent of this contribution, however, either to the improvement of home living or to the development of the understandings and abilities needed by the homemaker varies markedly in secondary schools.

2. Home Economics and Other School Groups

Since the beginning of the federally aided vocational program in homemaking, the contributions of science and art have been recognized by planning for students to devote time to the study of such "related subjects." Related art has resulted in the development of greater appreciation of beauty in the home, better judgment in the selection and arrangement of furnishings and in the selection of family clothing.[20] Similarly related science has given an understanding of chemistry, of physics, of biology, of physiology, with their applications to health, to housing, to cooking, to textiles, to equipment.[21]

[19] Dudley M. Clements, Marie White, Rua Van Horn, and James H. Pearson, *Farm Family Living*, pp. 5-6. United States Office of Education Vocational Division Monograph No. 22. Washington: Office of Education, 1941.

[20] Florence Fallgatter and Elsie Wilson, *The Teaching of Art Related to the Home*. Federal Board for Vocational Education Bulletin No. 156, 1931. Washington: Government Printing Office, 1931.

[21] Edna P. Amidon and Hazel B. McKibben, *The Teaching of Science Related to the Home*. Federal Board for Vocational Education Bulletin No. 158, 1931. Washington: Government Printing Office, 1931.

Other contributions to home and family living may be realized by: enriching the use of leisure time of family members through a study of English, music, art, and physical education; by improving the efficiency and attractiveness of the house through industrial-arts projects; and through an understanding of laws dealing with marriage and divorce, child labor, women's work, savings and investments, and food protection.[22]

3. Homemaking and Other Aspects of Vocational Education

Because most wage-earning jobs, except those centering around the farm, are carried on away from home, the relation between success in homemaking and in other vocations has received very little attention. Undoubtedly the problems existing in the planning and maintenance of city homes have many elements in common with those listed by agriculture and home economics representatives as important parts of both vocational programs. Although, strictly speaking, these are outside the concern of those responsible for training in trade or business, the interrelations of happy home life and success in a job should not be as completely disregarded as they have been in the past. The burden of the homemaking responsibility is usually carried by the woman and is the vocational responsibility in homemaking education. But maintaining a satisfying home life is a co-operative job between men and women, and some aspects of home and family living should be a part of the general education of boys as well as girls, of men as well as women. Moreover many men are now carrying responsibility for certain aspects of the homemaking job. Also those phases of education for homemaking which promote the general employability of wage earners should be recognized and incorporated in their educational programs.

The interrelations between homemaking and wage-earning education have been better recognized in the training of girls than they have been in the education of boys. Most boys' trade schools set up an educational program that disregards almost completely the fact that a large part of a person's life is spent in a home, that as a parent the man has as important a job in his home and in his parental responsibilities as he has in earning an income for the family. The fact that

[22] Joint Committee on Curriculum Aspects of Education for Home and Family Living. "Enriching the Content of Courses and Organizing Others," *Family Living and Our Schools*, pp. 184-96. New York: D. Appleton–Century Co., 1941.

dissatisfaction and unhappiness at home will reflect on his efficiency in a trade is seldom recognized in the training program.

In some secondary schools offering trade training to girls all pupils have some homemaking education in addition to preparation for a wage-earning job. In other schools the more immediate wage-earning responsibility dominates the training program though this is often combined with study of some academic subjects. The long-time homemaking responsibility which most women carry is too often left out of these educational programs. This would not need to be so seriously deplored if all schools made available adult education in homemaking. Such, however, is not the case. Some schools make certain aspects of homemaking education a part of the training for all girls. Others give homemaking and wage-earning training to only some of their graduates.

An ever increasing number of women are entering wage-earning pursuits (20.6 per cent of the female population fifteen years of age and over were employed in 1900; 25.5 per cent were employed in 1940). The percentage employed in the next few years will without doubt increase rapidly because of the necessity for employing women in defense industries. This poses four problems for education: (1) women need training for their homemaking responsibilities and for their wage-earning job; (2) as homemakers enter industry it is going to be necessary to train men to carry more of the home responsibilities in order that the home may be maintained without too great physical and emotional strain; (3) the immediate emergency will no doubt require that special training be set up for women entering industry which involves the industrial training plus education in time-saving procedures in food preparation and efficient home management as well as parent education so that both homemaking and industrial employment may be as effectively carried as possible; (4) young people need to be prepared to work in day-nurseries, nursery schools, and neighborhood centers for the care of children. Colleges should be expected to provide well-trained leadership for these centers but the schools will need to be responsible for training youth and adults as assistants in these centers.

4. Relation between School and Community in Homemaking Education

Many problems affecting home life in a community can be effectively solved only when many agencies and organizations work together on them. Improving the health of the family, the sanitation of the

markets, the quality of foods available, the development of community canning facilities, and the improvement of recreation facilities are illustrations of this. A school is missing a real opportunity if the teachers and the pupils are not encouraged to co-operate with others in solving such problems.

The illustration on page 280 describes the way a forum council has helped develop the adult-education program for a community so that the homemaking program was adapted to the needs of adult women in the locality. Another interesting illustration comes from a town of 2,300 population, Albion, Nebraska, where adult education has been an important part of the school program since 1933. It started with a class in psychology recruited by the Y.M.C.A. and taught by the superintendent of schools to about thirty regular attendants. The next year 225 adults enrolled in twenty classes with seventeen teachers, and the following year the State Department of Vocational Education helped the locality finance the homemaking classes, some of which have been held since then in the school and some in the homes. In 1941-42, twenty-two classes in homemaking in this town enrolled 384 men and women in home arts, furniture repair, knitting, food selection, food preservation, cooking, home nursing, first aid, home defense, family relations, and human relations. A forum has been a part of the adult-education program since 1935 when the subject discussed was the "new deal." In 1941-42 the forum conducted discussions of social adjustment with the problems presented through moving pictures and with audience and panel analyzing the situation. The average forum attendance was about one hundred. Besides these emphases, the adult-education program in Albion in 1941-42 included three classes in distributive education, two in commercial work, one each in photography, religion, world affairs, square dancing, and chess.[23]

In one city where a school-community program in home and family living is being developed, the following are among the organizations and agencies in addition to the school represented on the advisory committee: Council of Churches and Christian Education, Music and Art Foundation, Parent-Teacher Association, Kiwanis, Associated General Contractors, Visiting Nurses Association, state and city health departments, County Medical Association, Eastern Star, Y.M.C.A. and Y.W.C.A., Jewish Welfare Society, Junior League, Public Library,

[23] Report supplied by Don R. Leech, Director of Adult Education, Albion, Nebraska, May 1942.

Work Projects Administration, Women's University Club, State Society for Mental Hygiene, State Dairy Council, State University, Repertory Theatre, Juvenile Court, Family Society, Welfare Council of Community Fund, Urban League, Junior Chamber of Commerce.[24]

Co-operatively developed programs have promise from many angles. More rapid progress is possible because more people recognize the goals and pool efforts in their attainment and because those who are aware of different obstacles can help others to see these and to assist with their removal. The greatest gain comes in increasing understanding and in feeling the impetus of joint planning, execution, and evaluation —important elements in a democracy.

VI. Next Steps in Homemaking Education

The home can do much to make or mar an individual's whole life for in a sense he is but the reflection of his home. So, too, national stability is endangered if family life is generally unstable and insecure. For under such circumstances, the people composing the nation are insecure. Just as the caliber of the nation depends on the home, so in turn the caliber of the home depends upon the homemaker.

At the present time, unfortunately, too many homes are unable to withstand the impact of economic and social forces affecting their members and too few schools are accepting whole-heartedly their responsibility for improving the situation. Almost two-thirds of the high schools have no vocational program in homemaking; about one-third have no home economics; only about 3,700 centers are reaching adults; few schools are reaching all age groups. Only infrequently are schools and community groups working together in the interests of better home life.

In order that the country may have homemakers who are better prepared for their vocation, the following seem to be important directions in which the homemaking program should move:

(1) *The program needs to be more flexible and more readily adjusted to changing social and economic conditions.* Of course this does not mean giving up the idea of developing understandings and abilities which function in an unknown future. But it does mean critically evaluating the extent to which tradition rather than the needs of the times dominates the program. It also means using crucial problems which families face as the basis for developing such understandings and abilities.

[24] Mimeographed Report on Education for Family Life. Superintendent of Schools, Seattle, Washington, January 1941.

Those who are planning educational programs in homemaking must ask themselves as the social scene changes: Are social and psychological problems being given emphasis commensurate, for example, with the scientific? Good human relationships, not housework, make a home. Personalities are in the making in the home as well as family meals. Are managerial and business problems stressed as much as the manipulative? Homemaking is a business, too, and like business requires good management. Are creative and artistic aspects of homemaking receiving adequate attention? The love for and the creation of beauty in our homes is fundamental for a "good life" there. Are recent research findings incorporated? Only by keeping in touch with the most recent findings can the health and satisfaction of family members be most efficiently insured.

(2) *A more adequate plan for the preservice and in-service education of teachers is needed.* College programs frequently are slower to adjust to changes than those at other school levels. Many colleges find it difficult to provide for their students experience in solving home and community problems, especially problems existing in homes different from those in the ones from which students come. Teachers, then, find it very difficult to understand the situations in the homes of many of their pupils. Lacking this understanding, they are unable to adjust their instruction to the needs. Many teachers are inadequately prepared also for co-operation in community activities. An adequate in-service training program must help overcome these lacks.

Such a responsibility is difficult because turnover of home-economics teachers is very great; in some states the average tenure is only one and one-half to two years. Marriage takes many away from teaching and many leave to go into more remunerative vocations requiring home-economics training. Even in this field where experience in homemaking is so important, some schools still have regulations which forbid married women to teach. All of these factors make it almost impossible to keep the programs manned with people who have the educational preparation essential for the strongest leadership.

(3) *A greater proportion of the homemakers and prospective homemakers must be reached with a vocational program.* Every city in the country should make adult education in homemaking available. Only about half have accepted this responsibility. Some which offer classes to adults still have only foods and clothing courses. The home and family life emphasis for all pupils should be made a stronger part of elementary, high-school, and junior-college programs. Not until the

general-education program has been well developed in the area of home and family living can the vocational program built upon this give strong preparation for homemaking. Now much of the latter must be concerned with problems which should have been a part of general education for all.

(4) *The general as well as the vocational program concerned with the home needs to be developed on a more co-operative basis.* Programs for pupils could be greatly strengthened through the co-operation of several teachers. Needs common to homemaking and other vocations as well as those unique to each must be recognized and provided for. Parents, teachers, and pupils should co-operate in building such programs, not alone because they all are so vitally concerned with the way in which these develop but because the home and school experiences should supplement each other in furthering pupil development. More co-operative planning between school and community organizations and agencies in the interests of homemaking would result in stronger programs in centers where thousands of secondary schools and colleges are located.

* * * * *

One of the abiding needs, if better homes for America are to be achieved, is better homemakers. But we cannot acquire these better homemakers by rubbing an Aladdin's lamp; we have to depend on the slow and arduous processes of educating the American people for happy, wholesome, deeply-satisfying family living. Because homemaking is both a science and an art, preparation for it demands the best in educational planning.

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SECTION IV

TYPES OF PROGRAMS AND AGENCIES

CHAPTER XVII

VOCATIONAL EDUCATION THROUGH NON-SCHOOL GOVERNMENTAL AGENCIES

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I. INTRODUCTION

A considerable proportion of the vocational training needed for many kinds of jobs is obtained on the job, as incidental learning. Persons with suitable backgrounds are put on the payroll and are given a breaking-in period to acquaint them with the specific duties of the work. Some productive work is performed almost immediately by the new worker, and his effectiveness increases with experience.

With the simpler types of work, perhaps most of the specific training is done "on the job." When occupations require a reasonable amount of skill and knowledge, it is usually more efficient to set up organized vocational-training programs. Such programs often require both basic and specialized education.

Public schools and colleges provide much of the basic vocational education needed by workers, but these institutions are usually not in position to provide the special education for various aspects of work life which are peculiar to specific occupations, nor to provide the training needed by specific groups. This may be due to the fact that the special training needed can be provided only in close proximity to the occupational station of the trainee or because of the limited numbers of persons needed to be trained for occupations of highly specialized character. Thus, many governmental agencies have found it necessary to provide their own training programs, outside the public schools and colleges, to meet these needs, just as industry has found it necessary to set up its own training programs to provide trained personnel for its specific jobs.

It is the purpose of this chapter to outline the educational programs of some of the more important governmental agencies such as the Civilian Conservation Corps (now discontinued), the National Youth Administration, the Work Projects Administration (in process of liquidation), the Civil Aeronautics Authority, the United

States Maritime Service, the United States Coast Guard, the Army, the Navy, the Indian Service, and the United States Department of Agriculture. Brief mention is also made of vocational programs, outside of the public schools, operated by states and municipalities. Space is not available to provide more than an overview of the more important aspects of these programs of vocational education. In times of emergency the vocational education picture changes rapidly, with new forms of training emerging as older forms are superseded. The material presented here attempts to portray the various types of vocational educational programs offered by these agencies, the objectives of the programs, the organizational patterns, and the nature and content of the educational offerings. Such agencies as the C.C.C. and the W.P.A. are described because they are most likely to reappear in one form or another after the war.

II. Civilian Conservation Corps

The C.C.C. was established in 1933 to provide work relief for young men and to develop and conserve the natural resources of the country. The effects of the war upon the position of the youth served by this agency resulted in the discontinuance of the organization in 1942. Its program took the form of work camps, of approximately two hundred enrollees each, scattered throughout the states but usually located in areas of the public domain, such as the national forests. The work program included road building, dam construction, erosion control, insect control, fire protection, flood control, and other outdoor activities of conservation nature.

The administrative pattern of the C.C.C. as originally set up placed the control of the program as a whole under a director who reported directly to the President but gave the administration of the individual camps to the War Department. Certain technical supervision of work projects was under the Department of Agriculture, the National Park Service, or other federal agencies. Altogether some twenty-five different federal departments had a part in the program.[1] Under the Reorganization Act of 1939, the C.C.C. was assigned to the Federal Security Agency.

[1] Frank E. Hill, *The School in the Camps.* New York: American Association for Adult Education, 1935.

Kenneth Holland and Frank E. Hill, *Youth in the C.C.C.* Washington: American Council on Education, 1942.

The enrollees were young men between seventeen and twenty-three years of age, physically fit, and in need of employment, with preference given to those whose families were on relief or in need. Veterans of the United States military forces were also admitted to the camps and made up about 10 per cent of the total enrolment. Enrolment was for a six-months period, with privilege of continuing longer.

In the early stages of the program, the emphasis was placed more largely upon the production aspects, with educational outcomes a side issue. As the program developed, there emerged a recognition of the possibilities of a far-reaching educational program involving the work projects as well as classes offered during the evening hours.

The work projects provided varying degrees of on-the-job training, attention being given to the selection of trainees for specific work projects in line with their interests and abilities. Large numbers of enrollees attended evening courses taught in the camps by camp personnel or by teachers brought in from the outside. In many camps opportunity was provided for correspondence study in a variety of fields. Supplementary instruction in the shops and classrooms of vocational schools located within reach of camp was made available in many places. As a part of the national defense-training program, the C.C.C. started specialized training programs in certain camps in such fields as cooking and baking, radio operating, and the like. Enrollees with an aptitude for mechanical work were given a twelve-months course in the repair and maintenance of automobiles, tractors, graders, Diesel motors, and similar machinery.

The authorized enrolment in the C.C.C. camps varied somewhat from year to year, and camps were opened and closed in keeping with employment conditions. The annual authorized enrolment for the 1941 fiscal year was 500,000 in 1500 camps.[2]

III. National Youth Administration

The National Youth Administration is an agency of the federal government, established by executive order of the President in 1935 and continued by acts of Congress. Originally the N.Y.A. was an operating unit within the Works Progress Administration. On July 1, 1939, it was separated from the W.P.A. and placed within the Federal Security Agency. Its purpose is to provide part-time, wage-earning

[2] "Defense Job Training" (chart). Washington: United States Office of Education, 1941.

work for young people who are in school but who need financial assistance in order to continue their education and for youth who are out of school, unemployed, and in need of work. Programs of part-time work for these two groups of youth are carried on through the co-operation of local authorities and the National Youth Administration.[3]

The program is administered through state youth administrators in the several states, with general control from the Washington office, but with considerable authority delegated to the state administrators. Programs in the several states vary widely, in accordance with youth needs and employment requirements in those areas.

The N.Y.A. program is essentially a work program, with wages paid for work done. Its vocational-education aspects develop out of the training which is inherent in the work performed by enrollees, together with the definitely organized instruction which is provided on many work projects.

The student work program provides work for students in secondary schools and colleges, with high-school students earning wages ranging from three to six dollars, and college students from ten to thirty dollars per month. The student work projects include departmental assistance, such as preparation of teaching material, repairing books, working in libraries, and grading papers; construction and maintenance, involving repair of educational buildings, repair and construction of apparatus and furniture, building sidewalks and roadways, and landscaping; clerical services such as typing, maintenance of records, switchboard operation and general office work; and semiprofessional assistance including research and statistical assistance, health work, and laboratory assistance. The work programs in the schools and colleges are largely planned and supervised by educational officials in these institutions.

The out-of-school work program of the N.Y.A. provides part-time jobs for young persons who have left school and are unemployed. The objectives of this program include the benefit to the youth through the wages received, the experience secured on the job, and the morale building which comes from work rather than idleness. An additional objective is that of providing buildings, facilities, goods, and services through the operation of the work projects, for the co-operating community agencies, which are not available under the normal budget.

[3] Data in this section are taken largely from the Annual Report of the National Youth Administration for the year ending June 30, 1940.

The types of work included in the out-of-school program include productive workshops for both young men and girls; construction work, involving the building, renovating, and repair of public buildings and facilities other than buildings; and miscellaneous projects such as minor construction work, conservation, education, health, and office work.

In May, 1940, about thirty thousand young men were employed on production-shop projects in the basic mechanical trades in such specialized fields as automotive, airplane, electrical, and radio work. At that time about twenty-three thousand young women were employed in workshop projects including power-machine sewing and large-scale canning, with a few in the mechanical field. During the year 1939-40 an average of about twenty-eight thousand young men were employed in the construction, repair, and renovation of public buildings and facilities, and twenty-one thousand youths were engaged in the construction of recreational facilities. Clerical assistance projects employed about fifty-eight thousand youths, and recreational assistance projects somewhat over eleven thousand.

In the fall of 1940, co-operative arrangements were developed between the N.Y.A. and the United States Office of Education whereby the latter provides much of the classroom, off-the-job instruction for workers on the out-of-school program. This instruction is given by local public education authorities and is financed by special appropriations for this purpose.

On July 1, 1941, the N.Y.A. put into operation a greatly expanded workshop program for the training of workers for national defense industries. An appropriation of sixty million dollars was made available for this additional work, and it was estimated that more than 350,000 young persons would be able to receive work-experience training through this expansion of the program.

IV. Work Projects Administration

The Work Projects Administration is a division of the Federal Works Agency responsible for the federal work relief program. Prior to 1939 its functions were performed by the Works Progress Administration, which had taken over the functions of work relief originally handled by the Federal Emergency Relief Administration. All of these agencies were essentially work relief agencies, charged with the duties of providing work relief for needy unemployed persons.

Almost from the beginning, these agencies have been concerned with educational programs of one sort or another. In the early years of the depression many former teachers were unemployed, and work projects, financed from federal funds, were developed to provide employment for these people. Some of these teachers were placed in rural schools which could not be financed locally. Classes were started to teach adults to read and write. Vocational classes of various sorts were developed. As the depression pattern changed, the educational work projects took on different forms, and with the advent of the national defense program, W.P.A. enrollees were placed in defense-training classes and were paid for taking the training.

The Work Projects Administration has had many divisions and many different educational programs, some operated co-operatively with the public vocational schools as in the case of training for defense industries and others operated directly under the administration of federal and state W.P.A. officials.

1. Defense Vocational Training Programs under the Division of Training and Re-employment[4]

The Division of Training and Re-employment has administered most of the vocational training in the W.P.A. program. This training program was designed to make available to industries serving national defense, certified workers employed on or awaiting assignment to work relief projects, who might be qualified for employment by a limited period of job training and shop orientation and thus facilitate the movement of certified workers from the rolls of the Work Projects Administration to private employment. Congressional approval was given in June, 1940, to include projects for training for manual occupations in industries engaged in production for national defense purposes in the list of types of public projects that could be prosecuted with funds appropriated to the Work Projects Administration for the fiscal year 1941, and this authorization was continued for the fiscal year 1942 by subsequent legislation.

In accordance with this authorization, a nation-wide vocational-training project, sponsored by the Office of Production Management and cosponsored by the United States Office of Education, provided

[4] Data in this section are largely taken from the report of the Office of the Division of Training and Re-employment, Work Projects Administration, December 19, 1941 (typewritten).

for participation by W.P.A. enrollees in the pre-employment and refresher defense-training classes financed from federal funds. The enrollees received a security wage while undergoing this training.

During the period July 1, 1940, to October 29, 1941, there were 165,588 W.P.A. trainees enrolled in these courses, with 32,098 still undergoing training at the end of this period. Of those who were no longer in training, approximately 67 per cent had obtained jobs as a result of the training they had received. The expenditure of W.P.A. funds for the training during this period was approximately $150 per trainee.

A second nation-wide project, sponsored by the Office of Production Management and cosponsored by the Civil Aeronautics Administration, provided for in-service training of airport servicemen at airports designated by the Civil Aeronautics Administration. W.P.A. funds were made available for paying the security wage to trainees and the cost of instruction. A third aspect of the national defense training program undertaken through work projects was the in-plant pre-employment training program in which W.P.A. compensated trainees were assigned to industrial plants engaged in national defense production for short periods of training at tasks comparable to those performed in the occupations for which the training is given.

2. Vocational Education in the W.P.A. Adult-Education Program [5]

The adult-education program of the W.P.A. has been an important part of the total educational relief program. In addition to the vocational aspects, classes have been operated in workers' education, literacy, naturalization, public affairs education, homemaking, arts and crafts, public speaking, and in many other fields. For some time academic and cultural education on the college level has been provided for in many communities. Vocational courses have had a prominent place in the adult-education program since its inception, and training for industrial, commercial, and agricultural pursuits has been offered.

The adult-education program of the W.P.A. also included vocational guidance and adjustment service especially designed for persons eligible for vocational training. This service was also tied in with federal and state employment services and with guidance departments of the public schools.

[5] Data from report from the Adult Education Section, Division of Community Service Programs, W.P.A., January, 1942 (typewritten).

As of July, 1941, there were 64,266 persons enrolled in W.P.A. vocational-education classes, with approximately two-thirds of these enrolled in commercial courses.

V. Civil Aeronautics Administration [6]

The principal vocational-education activity of the Civil Aeronautics Administration, Department of Commerce, is the administration of the civilian pilot-training program. Through the co-operation of colleges and universities, which provide the aviation ground courses, and commercial flying-schools, which give the flight training, the C.A.A. is providing civilian pilot training for many thousands of young men. The courses are written, the teaching personnel is examined, the activities are supervised, and the trainees are tested by the C.A.A. The training is financed by the federal government through contracts with the co-operating institutions.

The "primary" civilian pilot-training course provides 72 hours of ground-school instruction and thirty-five to forty-five hours of flight training on light planes. Trainees must be nineteen to twenty-five years of age and must meet rigid physical requirements. College applicants are selected by the sponsoring institutions on a scholarship basis; non-college applicants are selected on a competitive basis from those completing a specified ground-school course. During the fiscal year 1938-39 the program was in an experimental stage, and 313 pilots were trained. During the 1940 fiscal year the output jumped to approximately 10,000. The schedule for the 1941 fiscal year provided for 45,000 pilots completing the primary course in approximately 675 training centers scattered throughout the United States. Under the C.P.T. contract, the cost of training a "primary" pilot is $375.

The "secondary" training program, for pilots who have completed the primary course, provides for 126 additional hours of ground-school training and forty to fifty additional hours of flying on heavier primary military-type planes. The experimental program of secondary training in the 1940 fiscal year turned out eighty-six pilots; the 1941 schedule provided for eight thousand. The cost per "secondary" pilot under the C.P.T. contract is $870 in addition to that for the primary training.

[6] Data in this section are taken largely from the Bulletin *Mass Production of Pilots*, issued by the Civil Aeronautics Administration, Washington, 1941.

VI. United States Department of Agriculture

The United States Department of Agriculture is primarily a research and service agency designed to help the American farmer in solving problems of production, marketing, farm organization, and land utilization and, to some extent, to serve the urban consumer. It attains its objectives partially through co-operation with state agricultural colleges which operate programs of research, resident instruction and extension service. In addition, it operates certain vocational-education programs directly, for its own employees and for others.

1. The Co-operative Extension Service

One of the most important aspects of vocational education with which the Department of Agriculture is concerned is the Co-operative Extension Service, in which the land-grant colleges co-operate with the Department in providing adult education for many thousands of farmers and their families. The program is financed by federal, state, and local funds, supplemented in some cases by funds from such organizations as the Farm Bureau. The administrative pattern includes federal administrative control through its power of approval of programs and state control through the Agricultural Extension Service, with some measure of local control in the counties. All workers must be approved by the state and federal officials, which in reality makes them employees of the state agricultural college and the United States Department of Agriculture.[7]

The county is the local administrative unit, and the local staff includes the agricultural adviser (county agent), the home demonstration agent, and the boys' and girls' club agent, with additional assistants. Some counties have only part of this personnel. An essential part of the program is the training of local community leaders, who hold meetings in their townships or neighborhoods. The county staff renders individual service when called upon, but most of the work is done through group meetings.

Three types of activities are included in the program: agricultural advisory service, home demonstration service, and the 4-H Club work. Projects have an important place in the various activities, and these are often used as demonstrations to show farmers and homemakers

[7] The Advisory Committee on Education, *The Land Grant Colleges*. Washington: Government Printing Office, 1939.

the values of new or improved methods of carrying on their work. The educational activities take many forms: individual service, group meetings, exhibits, printed bulletins, correspondence courses, and the like. Most of these activities take the form of special services to meet special needs, in contrast with fixed curriculums such as are found in many educational programs.

2. The Graduate School

The Graduate School of the Department of Agriculture was organized in 1921 to provide opportunity for advanced study to qualified persons through the use of the extensive library and other facilities of the Department in Washington. It is a nonprofit organization, receives no federal appropriations, and is financed largely by tuition fees. The government provides classrooms, laboratories, and other necessary facilities. Altogether, about two hundred different courses are included in the program. No degrees are granted, but graduate credit is given to qualified students who may use the credit toward advanced degrees at other colleges and universities. During the year 1938-39, nearly forty-five hundred students were enrolled.[8]

3. The Weather Bureau Training Program

Special training is provided for certain employees of the Weather Bureau. Each year a small group is recruited for advanced study in meteorology at leading universities, with all expenses for the one-year course paid by the government. Regional technical conferences dealing with the newer techniques of weather analysis and forecasting provide training for field-station employees. These conferences are approximately ten weeks in length.

4. Fire-Control Training for the Forest Service

In more than two hundred camps, mostly in the Northwest, training programs are provided for the workers who are engaged to protect the forest areas from fires. Practical demonstrations supplemented by theoretical training make up the program. Special training is also provided for fire bosses, who direct the fighting of large fires, and for the thousands of laborers and other workers in the national forests.

[8] Walton C. John, "Department of Agriculture," *School Life*, XXV (July, 1940), 298-300.

VII. Office of Indian Affairs

Vocational education for Indians presents certain aspects which need to be interpreted in the light of the historical development of government policy in dealing with Indians. For a great many years the Indians have been regarded as wards of the federal government. Prior to 1871 Congress considered the Indian tribes as nations and followed the practice of making treaties with them. In that year Congress placed the Indians and their property under the control of the government and segregated many of the Indians on reservations. Beginning in 1887, the government attempted to break up tribal relations and allotted land to individual Indians with the objective of encouraging them to manage their own affairs as individuals and to adopt the white man's way of living. In 1934 a reorganization took place in the management of Indian affairs, and the policy of the government since that date has been that of encouraging tribal life and self-government, restoring the Indian lands to the tribes, and fostering the economic development of the tribal units.[9]

The educational program for the Indians has followed the general pattern outlined above. In an effort to wean the Indian away from his ancestral mode of living, Indian youth were removed from their homes and placed in schools often located hundreds of miles away. The Carlisle Indian School in Pennsylvania was typical of these schools. The objective of these schools was to train Indian youth in trade and industrial occupations common to urban life. There is little evidence to show that effective results were obtained, for most of the Indian youth returned to their homes and made little use of the training received.

Today the approach to the problem of education for Indian youth is that of educating them, in so far as possible, within the community setting and of adapting the curriculums to meet the needs of the Indian community. Training is provided which is intended to help these youth become self-supporting citizens through occupational life which is indigenous to their communities and in line with the trends of their tribal groups. The American Indian population is far from homogeneous, and the programs are aimed to take into account these varying aspects. In certain sections the Indians are being assimilated by the

[9] Data in this section are taken largely from report of the Advisory Committee on Education, *Educational Service for Indians*. Washington: Government Printing Office, 1939.

white population. In other localities the trend is toward more closely knit tribal units.

The federal Indian schools are increasingly becoming vocational in character, and the programs appear to be steadily moving toward the objectives as set up under the reorganization plan for Indian service.

VIII. United States Coast Guard and United States Maritime Service

The United States Coast Guard is essentially a federal maritime police force, which operates as a part of the Navy in time of war. It has the responsibility for the enforcement of federal law upon navigable waters and of protecting life and property. The suppression of smuggling, protection of fisheries, maintenance of aids to marine navigation, and the rendering of aid to vessels in distress are some of its many functions. It is the administrative agency for the United States Maritime Service.

The United States Maritime Service is a voluntary organization of licensed and unlicensed personnel of the Merchant Marine, set up for the purpose of maintaining a trained and efficient merchant marine personnel.

Both the United States Coast Guard and the United States Maritime Service operate training programs for officers and enlisted men which include many specialized courses necessary to meet the varied needs of the services.

1. United States Coast Guard

The Coast Guard Academy at New London, Connecticut, is the principal agency for the training of Coast Guard personnel and provides technical training for young men who are candidates for commissions as officers. The curriculum provides many subjects commonly found in engineering courses, together with other technical courses of maritime character. The program is four years in length, with instruction eleven months per year. Entrance requirements are similar to those of high-grade engineering colleges, and admission is based on competitive examination. On graduation the cadets receive commissions as ensigns in the Coast Guard.[10]

[10] Bulletin. *The United States Coast Guard Academy.* Washington: Government Printing Office, 1940.

During the training period, cadets receive $780 per year and a rations allowance. The training includes shore study during the regular year and cruises during the summer months.

2. War Shipping Administration

To assist in the maintenance of a trained and efficient merchant marine personnel, the United States Maritime Service operates an extensive educational program which prepares men for licensed and unlicensed positions on merchant vessels.[11] As previously noted, these services have been assigned to the War Shipping Administration.

Apprentice-seaman training is provided through training stations located at St. Petersburg, Florida, Hoffman Island in New York Harbor, Gallups Island in Boston, and Hueneme, California. Applicants must be United States citizens, eighteen to twenty-three years of age, of good health and character. The training period is seven months in length, at the end of which each enrollee is offered enrolment in a regular status in the Maritime Service if his qualifications and conduct are satisfactory. All apprentice seamen are given a general training in subjects all seamen should know, such as rowing, sailing, rope work, seamen's laws, etc., and then given a choice of department —deck, engineer's, or steward's—in which special training is given during the remainder of the training period.

At Gallups Island, Boston, the Administration also operates a radio school for the training of men as radio operators in the merchant marine. The course is ten months in length and includes training in mathematics, radio theory, code instruction, radio laws and regulations, laboratory work on radio equipment, and practical watch standing. At the completion of the course the enrollee takes the F.C.C. license examination for radio telegraph operator. For the upgrading of men who have had at least one year's service at sea within three years prior to application and who are American citizens over nineteen years of age, the Commission provides a three-months' training program at Hoffman Island, New York, and at Government Island, Alameda, California.

The cadet-training program of the War Shipping Administration aims to provide well-trained officers for the deck and engineer's departments. Applicants must be high-school graduates or the equivalent,

[11] *Maritime Service: General Information on the United States Maritime Service.* Washington: Government Printing Office, 1940 (revised).

eighteen to twenty-five years of age, and physically sound. The training program is four years in length, with the third year spent in shore training. During the training on shipboard, the cadet studies academic and naval subjects and is examined by regional cadet instructors when his ship is in port. The training program includes mathematics, seamanship, navigation, cargo, marine engineering, communications, first aid, meteorology, etc., for deck cadets and appropriate technical subjects for engineer cadets.[12]

The War Shipping Administration program has facilities for training six thousand apprentice seamen annually, and has six hundred cadets in training on merchant vessels and in its cadet schools. Approximately five hundred additional cadets are enrolled in the state nautical schools in New York, Massachusetts, Pennsylvania, and California.

IX. The United States Army

Military organizations such as the Army and the Navy occupy positions somewhat different from other federal agencies with respect to vocational education. In times of peace they are concerned with the training of limited numbers of men to maintain their peacetime strength and of reserve personnel, who are called to active duty in time of emergency. When war comes, these organizations are called upon to expand their personnel many fold and to provide vocational training for the greatly varied tasks of military and naval service. The peacetime training agencies must expand quickly and effectively to meet the increased demands of war.

The United States Army operates a far-reaching program of vocational education, much too extensive to attempt to describe in any detail in the brief space allotted here. Altogether, more than forty different schools and colleges are operated directly by the War Department. Some of these will be described in some detail, other typical ones will be briefly outlined, and the rest will merely be listed. All are important institutions, each contributing a specialized educational service.

1. The United States Military Academy

Foremost among the educational institutions of the United States Army is the Military Academy at West Point, with a program of basic

[12] *Merchant Marine: Cadetships in the Merchant Marine of the United States.* Washington: Government Printing Office, 1939 (revised).

military training of college level for the preparation of officers. The legal maximum quota for the Academy is 1960 cadets, who gain admission through appointments apportioned among the states and territories or appointments from special groups provided for by law. Applicants must show physical and mental fitness to carry on the rigorous training program and be at least seventeen but not more than twenty-two years of age at the time of admission.[13]

The four-year program includes courses in mathematics, physics, chemistry, drawing, modern languages, English, economics, civil engineering, military engineering, ordnance, gunnery, and other subjects. In many respects it is similar to college courses in engineering. On completion of the course the cadet receives the degree of bachelor of science and is eligible for a commission as second lieutenant.

2. The Command and General Staff School

The objective of this school is the training of officers in general staff functions and in the tactical operations of corps and divisions. The student personnel is made up of regular Army officers, National Guard officers, and Reserve officers. In times of peace, the regular course is one year in length, with a special short course offered in the late spring. The enrolment in the regular course was approximately 130 students. Following the enactment of the Selective Service Act and its attendant needs for additional army officers, the course was shortened to two months and the size of the classes increased to about 375 students.

3. The Army War College

The Army War College is similar to the graduate school of a university, as it provides advanced training for the higher ranking officers. The student body includes approximately one hundred officers, including a few from the Navy and the Marine Corps. The period of instruction runs from September to June.

The program of instruction is divided into five groups of subjects: personnel, intelligence, operations and training, supply, and war plans. The conference or seminar method is largely used.

On account of the expansion of the Army incident to the emergency, the officers who would normally make up the faculty and student body were needed for command and staff duties. Consequently instruction was suspended with the graduation of the class of 1940.

[13] Walton C. John, "The Department of War," *School Life*, XXV (February, 1940), 134-35.

4. The Army Industrial College

The objective of the Army Industrial College is to train commissioned personnel of the Army and Navy in matters dealing with the mobilization of the industrial-plant resources of the country in time of war and in the procurement of military supplies of all sorts. The student body includes officers from the Army, Navy, and Marine Corps.

The course of study is nine months in length and includes such subjects as industrial mobilization plans, fundamentals of business, characteristics of basic industries, government organization for procurement purposes, procurement procedures and planning, and utilization of economic resources for war purposes. Since its organization in 1924, approximately one thousand students have been graduated from the College.

5. The Air Corps Technical Schools

The great range of courses offered in the various Army special service schools may be illustrated by the courses offered in the Air Corps Technical School, which include courses of training for radio operators and mechanics; airplane mechanics; aircraft machinists; aircraft metalworkers; aircraft welders; link-trainer instructors; parachute riggers; teletype maintenance men; weather observers; maintenance men for aircraft fuel and oil systems, electrical systems, aircraft instruments, propellors, bombsights, and armament; weather forecasters; and photographic laboratory technicians. These courses vary in length from four to twenty-two weeks, according to the requirements of the services to be performed.[14]

6. The Quartermaster Motor Transport School

Located at Baltimore, Maryland, and in operation since 1919, this school now has capacity for more than twelve hundred students. The courses offered provide training for officers and enlisted men in the various aspects of motor transport. A special course is provided for motor-transport officer training. Enlisted men are given a basic course covering engines and chassis units and specialist courses covering the major subdivisions in motor transport work. Each of these courses is three months in length. The specialist courses are as follows: engines, carburetion and electrical units, chassis units, inspector-foreman,

[14] Data given in personal letter from Bureau of Public Relations, War Department, Washington, December, 1941.

motorcycles, machinists, body repair, welding and blacksmithing, and Diesel engines.[15]

7. The Chemical Warfare School

The Chemical Warfare School was established in 1920 at Lakehurst, New Jersey, and was transferred to Edgewood Arsenal, Maryland, late that same year. This school provides training for officers, warrant officers, and noncommissioned officers in the offensive and defensive use of chemicals.

The courses offered deal with techniques in the use of chemical agents, meteorology, protection against chemical agents, chemical warfare tactics, incendiary bomb defense, and the like. Courses are provided for officers of the various arms and services of the Army, for Naval Officers, for noncommissioned officers, for Coast Guard personnel, and for officials in charge of civilian defense. More than four thousand officers and enlisted men have been trained in the Chemical Warfare School since its founding.[16]

8. Vocational Courses for Civilian Employees

In the various arsenals scattered throughout the country are thousands of civilian workers employed by the War Department. Many of these are skilled mechanics, engaged in the manufacture of rifles, machine guns, artillery of various types, and the many other items that make up the equipment needed for modern warfare. In times of peace these arsenals operate apprentice training courses for the various skilled trades and other courses for upgrading of mechanics. When emergency conditions developed prior to the declaration of war, these arsenals expanded their working forces and found it necessary to add large numbers of training courses to break in new men. Courses were developed for mechanics in the various skilled trades, for ordnance inspectors, and for many other types of civilian employment. Many of these courses were offered in the arsenals and other civilian-employing Army posts. Others were developed in co-operation with vocational schools and engineering colleges.

[15] News release. *The Quartermaster Motor Transport School.* Washington: Bureau of Public Relations, War Department, 1941.

[16] News release. *The Chemical Warfare School.* Washington: Bureau of Public Relations, War Department, 1941.

X. The United States Navy

The vocational-education program of the United States Navy, like that of the United States Army, provides numerous courses for officers, enlisted men, and civilian personnel. For the training of officers it has the Naval Academy, the Post-Graduate School, and the Naval War College, as well as numerous special schools of various types. For enlisted men it provides several training stations for recruits and a great variety of special schools.[17]

1. The United States Naval Academy

The Naval Academy at Annapolis was founded in 1845 for the purpose of providing basic naval theory and military training through general and special studies of college grade. Candidates for appointment as midshipmen, which is the designation given to students in the Academy, must pass rigid physical examinations and satisfy certain scholastic admission requirements. Most of the appointments are made through members of Congress.

The course of study is four years in length, and, upon satisfactory completion of this course, the midshipman is awarded the degree of bachelor of science and given a commission as an ensign in the Navy. The program of training includes the study of English, mathematics, languages, history, government, seamanship, navigation, ordnance, gunnery, marine engineering, electrical engineering, hygiene, and physical training. Summer cruises with various units of the fleet are included in the program.

2. The Post-Graduate School

This school provides a one- or two-year course, usually given between the fifth and tenth years of commissioned service for the upgrading of naval officers. The School has two divisions: the School of the Line, and the Technical School. The School of the Line provides training for general-line duties, naval engineering (operating), and applied communications. The Technical School trains officers for designing, inspection, and installation duties and includes such courses as naval engineering, radio engineering, fire control, aviation, metallurgy, explosives, torpedoes, and aerology.

[17] Data in this section are largely taken from an article by Walton C. John, "The Department of the Navy," *School Life*, XXV (May, 1940), 232-35.

3. The Naval War College

For the training of the higher officers, commanding officers, and flag officers, the Navy provides the Junior and Senior War College courses. These courses deal with strategy, logistics, tactics, command, policy, and international law. The senior course provides training in handling and maintaining large fleets over extended theaters of war.

4. Other Courses for Naval Officers

The Submarine School at New London, Connecticut, and the aircraft schools provide special training for selected officers. Supply officers receive special training at the Naval Finance and Supply School, Philadelphia. The Bureau of Medicine and Surgery conducts courses for officers of the Medical Corps.

5. The Naval Training Stations

Prior to the present emergency, the Navy operated four training stations for recruits, located at Newport, Rhode Island, Hampton Roads, Virginia, Great Lakes, Illinois, and San Diego, California, and a large number of special schools for training in the skilled trades and other occupations found in the service. These facilities have been expanded greatly in recent months.

The training stations select young men of good physique, normal intelligence, and good character, usually high-school graduates, although high-school education is not required. The course is twelve weeks in length, at the end of which the recruit is sent to a ship or to one of the Class A schools for special training.

6. Advanced Training for Enlisted Men

The Navy maintains a large number of special schools, listed as Class A, Class B, and Class C schools. The Class A schools include electrical school, ordnance school, communication schools, clerical school, machinists' school, metal-workers' school, woodworkers' school, bugle school, and hospital corps school.

The Class B schools include primary aviation school, schools for cooks and bakers, Diesel engine school, primary and advanced fire-control schools, gyrocompass school, optical school, submarine periscope school, elementary and advanced torpedo schools, and others.

The Class C schools include aerographers' schools, aviation mechanics' schools, aviation ordnance school, deep-sea divers' school, para-

chute material school, photographers' school, radio material school, submarine training school, welders' school, and others.

7. Civilian Training

For many years the Navy Yards have operated well-organized courses for the training of apprentices in the several skilled trades. Many other courses have also been offered for the upgrading of workers employed in these yards, for the training of naval inspectors, and for other types of civilian service. The greatly increased demands for skilled war workers caused by war activities has made necessary the enlargement of these programs, and courses are now operated day and night to provide the needed training.

XI. Other Federal Agencies

Almost every federal department of any considerable size has some form of vocational education in its program. In preceding sections of this chapter several of these programs have been described in some detail. Specialized training related to the services performed are maintained by the Departments of Justice, of the Treasury, of the State, and of the Post Office. Also the United States Marine Corps maintains schools for training its officers, most of whom are graduates of the Army or Navy training programs.

XII. State and Municipal Vocational-Education Programs Outside the Public Schools

The problems of training of personnel which are faced by the various departments of the federal government have their counterparts in the various divisions of the states and the larger municipalities. Special education is needed for police officers, firemen, and many other types of personnel. Some of this special education is provided by universities and other institutions in co-operation with the state or municipal departments. Much of it is done by the departments themselves, through informal and formal training programs.

Most of the vocational education provided by the states and municipalities for the training of personnel in the various departments is for the purpose of induction or upgrading of persons who are on the payrolls, and little provision is made for pre-employment training either by the departments themselves or by outside institutions.[18]

[18] William E. Mosher and J. Donald Kingsley, *Public Personnel Administration*, chap. xiv. New York: Harper & Bros., 1941.

Stimulated by funds made available under the Smith-Hughes and the George-Deen Acts for vocational education, many states have developed programs for co-operation of the state bureaus of vocational education with local municipalities in the development of public service training. Many states also have set up their own training programs for certain classes of state employees. The state police-training programs of New York and Maryland, and the New York State program for training prison guards are good examples.

Special vocational education programs for municipal personnel have been under way for many years. The Police Academy and the Fire College of New York City provide a great variety of training for policemen and firemen, with similar programs operated in most of the larger cities. Activities of the vocational-education bureaus of the state education departments in co-operation with municipalities have resulted in many special training programs for firemen and policemen operated either by the local community or by personnel provided by the state education departments. Massachusetts, New Jersey, Oklahoma, and other states have made substantial contributions in this field. The Bureau of Public Service Training established by New York State in 1937 has stimulated many types of training for state and municipal employees.

Although much has been done in recent years in the field of training for public service in its various aspects, as yet only a beginning has been made. Much remains to be accomplished both in pre-employment training and in the upgrading of employed personnel.

CHAPTER XVIII

VOCATIONAL EDUCATION FOR HANDICAPPED PUPILS

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I. THE NEED FOR SPECIALIZED TRAINING

Vocational Education of less than college grade in America has been very largely for highly selected students. Only during recent years has proper and adequate attention been given to the many types of maladjusted pupils, including both mentally and physically handicapped groups. There are some outstanding examples of suitable educational programs, both academic and practical, for these handicapped and bewildered youth, but such types of education are by no means extensive.

There has been a widespread feeling that vocational-industrial education should be for youth who desire to prepare for skilled work in industry and the mechanical trades. Agriculture, homemaking, and commercial education have been provided for students in the high schools. This leaves a large reservoir of boys and girls who will leave school below the high-school level, often below the junior high school level, who desire and should have the kind of education and training that is suited to their capacities and needs. There will always be a need for the training of youth for the skilled occupations but this classification contains only a comparatively small percentage of the working population. The youth who in large numbers possess only the aptitudes for work below the skilled-occupation level will be the semi-skilled and unskilled workers of tomorrow. The workers in the semi-skilled classification outnumber the skilled workers many times. There is a great opportunity, therefore, to give much in the way of usable education and training to the lower ability groups.

Handicapped or maladjusted pupils are found in every category of mental ability. These groups vary in I.Q. rating and aptitudes similarly to the physically sound pupils. The physical handicap is just an added impediment. The problem at hand involves a dual task: first to provide a program of vocational education for pupils of varying mental capacity who are physically sound; second, to provide voca-

tional education for the physically handicapped pupils who possess various degrees of mental ability.

II. Multilevel Programs of Vocational Education

Although the instructional programs of junior and senior high schools have been greatly enriched in recent years, the standard courses of these schools do not provide suitable education for all pupils. Many boys and girls want to fit themselves for specific types of trade and commercial employment. Those with outstanding mechanical, artistic, or commercial aptitudes will be more successful in vocational courses. Furthermore, a large number of problem youth—those who have reached their level in the regular grades, those who are retarded or maladjusted, and those who are misfits generally—should be provided with vocational types of training.

A multilevel program of vocational education can render real educational service. Such a program makes it possible to take care of all types of pupils, if grouped according to specific qualifications. These several levels are naturally open to boys and girls with physical handicaps. Mental capacity and aptitude determine their place in such a program.

A broad vocational program of four levels, similar to the Baltimore plan, can be used effectively. The four levels are briefly described as follows:

(*a*) Occupational classes and schools are for boys and girls who are at least thirteen years of age and who can read and master arithmetic at fifth-grade level or above. The minimum I.Q. is about 80. The majority of these pupils come from the fifth and sixth grades.

(*b*) Advanced occupational schools afford an opportunity for those pupils to be promoted who make satisfactory progress in academic and shop subjects in the occupational classes. Other pupils with average or high mechanical aptitude go directly from the sixth grade to the advanced occupational classes. Some come from the seventh grade. Those with low mechanical aptitude who come from the eighth grade will succeed in this program of work and also find it to be both profitable and enjoyable.

(*c*) General vocational schools are for boys and girls from the eighth or ninth grade who are at least fourteen years of age. Those with average or high mechanical aptitude and of seventh-grade reading and arithmetic ability make good in these schools. This level of training is also helpful to students of higher academic achievement who have only low mechanical

aptitude. Outstanding students from the advanced occupational classes are promoted to the general vocational school.

(*d*) Vocational schools represent the senior level in the vocational program where the trade courses lead to the skilled trades. Students desiring to enter these schools must be at least fourteen years of age, preferably fifteen or sixteen. They must have high mechanical, artistic, or clerical aptitude and must have completed the ninth grade. Boys and girls of unusual aptitude may be admitted from lower grades or promoted from the general vocational school. Each year there are increasing numbers of students from the upper grades of the senior high school and many graduates who seek admission to the vocational schools.

The multilevel schools provide terminal education for the majority of the pupils enrolled at the different levels. Naturally, physically handicapped pupils are to be found in every level of training because they qualify according to mental and academic capacities as well as aptitudes.

III. Special Classes for Lower-Ability Pupils

There are many pupils in every school system who cannot qualify, except by age, for any of the four levels of training as outlined above. The desirable school program, therefore, would include lower levels of training for the pupils of lesser abilities. While such education and training might be under the title of special education and not recognized as vocational education, much of it will be terminal education. Such training does develop some minimum routine skills, good work habits, proper attitudes and a desire to work, which are assets in many types of jobs. The Division of Special Education of the Baltimore school system has developed a program of training designed to meet the needs of four groups of mentally retarded pupils. The special classes organized for these groups include:

(*a*) Special-center classes for the extremely slow children of chronological age of six to thirteen years and of 50 to 64 I.Q. About one child in twenty-five belongs in this classification. Academic work is at a first- and second-grade level and transfer is made to a shop center at the age of fourteen. Children of I.Q. between 65 and 70 may also be considered for special-center, if their achievement is second grade or lower.

(*b*) The primary opportunity classes for slow children of six to eleven years of age chronologically and of 65 to 80 I.Q. About two children in twenty-five belong in this classification. Academic work is usually at a first-grade level at the age of eight or nine. Promotion is made to an intermediate opportunity class at the age of twelve.

(*c*) Intermediate opportunity classes for slow children of 65 to 80 I.Q. and chronological age of twelve to thirteen years who have been promoted from the primary opportunity classes and for children from the regular grades who are failing and have an age-grade retardation of two years or more. Academic work is usually at second- or third-grade level. Promotion is made to a shop center at the age of fourteen.

(*d*) Shop-center classes

(1) The boys' shop centers are typically for boys of fourteen to fifteen years of age chronologically, with I.Q.'s of 50 to 80, who have been promoted from the intermediate opportunity classes or from the special centers. The academic work is typically at a fourth-grade level. The shop is primarily concerned with woodwork. This is terminal education for most of the boys who leave these classes to go to work.

(2) The girls' shop centers are typically for girls of the age and I.Q. mentioned for boys, promoted from the intermediate opportunity classes or from the special centers. The "shop" work is cooking, sewing, laundry work and child care. The girls typically work at a fourth-grade level. The education is largely terminal.

IV. Vocational Rehabilitation of the Disabled

The vocational rehabilitation of disabled soldiers, sailors, and marines under the Smith-Sears Act has had a significant influence on the rehabilitation of disabled or handicapped civilians. It was proven that many men, disabled in the war, were as useful after retraining for new vocations as they had been before being incapacitated. The disabled service men became self-supporting and consequently self-respecting citizens.

The original act of Congress appropriating funds to the various states was operative from 1920 to 1924. Subsequent acts continued the vocational rehabilitation of disabled persons until August, 1935, when the social security legislation made federal aid to the rehabilitation program permanent.

The vocational rehabilitation services provided for by the federal government are furnished under the control and supervision of the various state boards for vocational education with the aid and approval of the United States Office of Education. While sufficient funds have not been made available to provide rehabilitation for all disabled persons, the accomplishments have been remarkable from an economic and social standpoint. After physical reconstruction, the vocational rehabilitation service includes vocational counseling for the rebuilding

of morale, preparation for employment through training in a vocational school or on the job, and finally placement in employment. Even with the wise choice of a suitable job and adequate preparation for the job, follow-up in the job is essential until the trainee has demonstrated his probable success as a wage earner.

The federally aided rehabilitation service for disabled civilians has been so successful that it has influenced many states to provide programs for the physical rehabilitation of crippled children. The provisions of the social security acts have extended these services to include, in addition to the orthopedically disabled, such groups as the blind, the deaf, the cardiac, and the tuberculous. Many new schools with adequate and suitable equipment for handicapped children have been provided.

V. Testing and Guidance

It would be impossible to select boys and girls properly for the levels of work where they can achieve successfully without a guidance program supported by adequate testing services. There must be more positive means of assisting boys and girls to choose the kind of work which they desire and for which they have the most aptitude and ability. Progressive school systems are using aptitude tests as a means of guiding youth toward the courses of training which will fit them for occupations in which they will be most likely to succeed.

Test results should be used in combination with personal factors —interest, school achievement, mental capacity, attitudes, socio-economic status, and physical characteristics. Such test results must, therefore, be reliable. Any program of testing requires the services of properly qualified specialists. With a trained staff of testers, an aptitude testing service will prove to be of inestimable value and will grow in effectiveness.

The vocations should be surveyed and analyzed for worker characteristics which are common to entire groups or families of occupations, so that, through the knowledge thus gained, the individual may be broadly trained. This concept of guidance is but in its infancy. It is based on the assumption that it is imperative to secure as complete knowledge as possible about the individual and about the situation in which he is to function so that we may be the better judge of his need for vocational training.

The following statement by the supervisor of aptitude testing in the division of vocational education of the school system of Baltimore

indicates the need of a well-conceived program of guidance for pupils whose vocational opportunities may be restricted because of physical or mental handicaps.

It is the policy of present-day educational systems to present equal opportunities for all individuals within their capacity. This predicates the establishment of educational facilities to meet the capacities of the individual. It is obvious that it would be inexpedient to place a boy of sixth-grade educational capacity in a highly specialized technical high school or to place a boy in a highly specialized trade school who lacked both the capacity to deal with mechanical situations and the educational background to cope with the specialized problems required in the related subjects. The educational system of the city of Baltimore is so organized that it provides a wide variety of opportunities for educational and vocational training. The regular academic ladder is set up on the six-three-three plan with provision for tryout courses in the junior high schools and differentiated curriculums in the senior high schools. Vocational schools on skilled-, semiskilled-, and nonskilled-training levels have also been established. However, in a large school system it is quite obvious that many students are in need of guidance as well as training. Because they and their parents lack knowledge of their capabilities, they are often attempting to continue in a type of school work for which they are not qualified and, naturally, a failure is the result.

Human behavior may be represented as a constellation of innumerable factors. Through the scientific process of sampling, certain of these factors may be combined into composites, termed aptitudes, which may indicate potentiality for particular types of education or training. The idea that everyone is fitted for some one occupation has been definitely exploded by the many investigations of psychology. When characteristics of any individual are studied, it is found that there are some in which he excels, some in which he has average capacity, and some in which he has little or no capacity. Combining these characteristics scientifically, it may be possible to indicate rather definite trends that are applicable to general fields of occupations. These fields may be defined in terms of educational and vocational preparation and the individual advised as to his relative chance of success, with training and education, in any one of them.[1]

VI. Mentally Handicapped Pupils

In every public school system there are large numbers of boys and girls who have been marking time in their general-education program, waiting for the day when they may leave school for work. For some,

[1] Albert G. Packard, "Aptitude Testing," *Baltimore Bulletin of Education,* XVI (November, 1938), 90-94.

it will be unemployment because of lack of proper education and training. Due to changes in industry and business, the age of employment is constantly being raised. Furthermore, only the highly intelligent youth who are physically fit are wanted by most employers. It seems that the public schools will have to provide for the maladjusted children in normal times until they are at least sixteen to eighteen years of age, or perhaps nineteen or twenty. Pupils who are largely maladjusted because of low mental capacity are unsuited for any kind of employment. They are not eligible for entrance into vocational schools but they do need a kind of education which is interesting and profitable. The occupational classes below the vocational or trade-school level offer a real opportunity for boys and girls to enter classes where they can do school work satisfactorily, acquire some general or minimum skills and develop proper work habits and desirable character traits.

In 1935 Detroit instituted a program of special education for the mentally retarded. This program was designed to include the following services adapted to the level of achievement and the occupational interests of the children who cannot meet the demands of ordinary employment situations:

(1) Occupational information—an overview of the whole economic structure and the relationships between the different types of work and the welfare of society as a whole
(2) Vocational guidance—the measuring of individual qualifications against specific job requirements
(3) Vocational training—basic training, both manual and non-manual, in area skills
(4) Vocational placement—actual job placement
(5) Social placement—adjustment on the job and in society, for as long a period as might be needed

In other words, the special pupil is entitled to the same services accorded other children of his own chronological age—guidance that is more than superficial lip service to the name, exploratory courses, training—at least in the area of his aptitudes, and job placement services that are more than mere registration in competition with normals.[2]

The need for specialized training of mentally retarded children is emphasized in the following excerpt from the report of the Maryland school survey:

The problem of mental retardation affects a variable percentage of the

[2] Richard H. Hungerford (Supervisor of Special Classes, Detroit, Michigan), *Report.*

school population. The figures for Baltimore City are around 4 per cent. The difficulty or inability of the individuals in this group to secure school promotions beyond various grades creates grave educational placement problems. The trend of needs of the mentally handicapped is in nonacademic directions, though of course character development and other social assets must not be neglected. A greater proportion of the content in classes for the mentally handicapped should be nonacademic than in classes for the typical. Unless the mentally handicapped are properly identified and given educational advantages appropriate to their needs, they become problems in the regular grades through repeated failure of promotion, requiring an inordinate amount of the teacher's time, being frequently the object of discipline, and eventually becoming truants.

Mentally handicapped children have been found to develop more satisfactorily when enrolled in special classes where there is prospect of success rather than of failure. Success comes through the work of specially trained teachers and the use of special curriculum of concrete functional activities selected from the regular curriculum but augmented by other appropriate materials and taught by methods which experience has shown to be best suited to these pupils.[3]

1. The Nature and Purposes of Occupational Education

Occupational education may serve the purpose of assisting atypical boys and girls to find themselves educationally and vocationally. For some it will provide training which will fit them for entrance into vocational schools. For others, perhaps the majority, special training along specific occupational lines should be provided in order that they may be able to enter employment profitably when they leave school. Such a program should include academic training necessary for social and civic life.

The curriculum offered to occupational-type pupils may have the following or similar aims:

(1) Exploratory or tryout experiences for determining interests and aptitudes
(2) Guidance in the selection of a suitable vocation
(3) Development of appreciation of the need for fundamental academic preparation
(4) Intensive instruction in basic subject matter directly applicable to life's activities
(5) Acquisition of habits of industry through shop and laboratory experiences
(6) Training for specific occupations on levels with individual abilities and desires

[3] *The 1941 Survey of the Maryland Public Schools and Teachers Colleges*, p. 253. Baltimore, Maryland: Maryland State Survey Commission, n. d.

(7) Correlation of practical subjects with academic studies and interests, in school and out
(8) Encouragement of avocational interests in the pursuit of hobbies and in the worthy use of leisure time
(9) Formation of social habits and recognition of moral, civic, and social values in community life.

Shop or practical subjects are generally interesting to boys and girls who are below normal intelligence. Except for the interest factor, it does not make much difference what the practical activity is. However, a variety of shop subjects and a variety of materials should be provided in order to appeal to various interests and to serve particular types of abilities.

The subjects of special interest to boys include electrical work, elementary machine shop work, woodworking, mechanical assembly, garment work, painting and decorating, simple auto mechanics, foods service, mechanical sketching and simple drawing, sheet and cold metal work, and elementary commercial studies. For girls, the attractive subjects are foods and cookery, clothing and textiles, homemaking, child care, power machine sewing, novelty work, tearoom and fountain service, crafts work, elementary commercial work, and some of the simple operative jobs, such as packing, bundle wrapping, assembly and operation of simple machines in industry and commercial establishments.

The academic or "related to life" subjects include arithmetic, English, spelling, reading, composition, handwriting, history, geography, hygiene, physical education, guidance, art, and mechanical drawing.

The essential academic subjects can be made interesting and profitable to youth of every level of ability. It is always necessary to select subject matter with an appeal, to omit technical and extraneous things, and to relate as far as possible all problems, discussions, and assignments to real life-situations and practical activities.

Since 1931, first in one school for girls and now in nine schools, the vocational high schools of New York City have been admitting mentally handicapped boys and girls and giving them the full benefit of the vocational high-school program. These pupils are selected on the basis of manual ability, interests, aptitudes, intelligence ratings, educational achievement, health, behavior, and attendance record. All these data are used for a prognosis as to probable vocational success, and only where the prognosis is favorable are the pupils sent to vocational high schools. This is done with the understanding that if, after reasonable

trial, they cannot benefit from the vocational-education program, they will be returned to the special classes in the elementary schools. In March, 1942, there were 510 boys and 437 girls scattered throughout the nine schools, with an average annual assignment of more than one thousand pupils.

A survey by the bureau for children with mentally retarded development indicates that the I.Q. range of pupils who have made good records in vocational high schools is from 65 to 75, with occasional exceptions among those from 60 to 65. Pupils who read below fourth-grade level fail to make as satisfactory adjustments as those who read at the fourth- or fifth-grade level. Pupils who read at third-grade level are not, as a rule, considered for vocational high-school placement unless they have some exceptional vocational aptitude. Most successful adjustments are made by pupils who have no outstanding physical defects, such as poor vision, poor hearing, poor muscular co-ordination; who have manual dexterity; who have established good work habits; who are emotionally mature and socially adjusted.

Experience has proved that secondary education along vocational lines for the higher-grade, well-adjusted mental retardates is well justified. Obviously, this program is a long cry from the old practice of "putting dumbbells into trade schools." It provides for a maximum of association with pupils of normal intelligence and for full recognition of the vocational and social potentiality of those who have been retarded in the academic program. The program is based upon a recognition of individual differences and of a right of each individual to benefit to the utmost from the opportunities offered in the school system.

VII. Physically Handicapped Pupils

Physically handicapped pupils must be given special consideration because of their disabilities. Plans for education and vocational training must be made on the basis of mentality, aptitude, previous educational achievement, age, and, as far as possible, desire and interest on the part of the pupil. The type of handicap must always be carefully considered in relation to the physical requirements of the training and also of the occupation which may be engaged in.

The Children's Charter provides that:

> For every child who is blind, deaf, crippled, or otherwise physically handicapped, and for the child who is mentally handicapped, such measures as will early discover and diagnose his handicap, provide care and treatment, and

so train him that he may become an asset to society rather than a liability. Expenses of these services should be borne publicly where they cannot be privately met.

1. Crippled or Orthopedic Children

Crippled or orthopedic boys and girls (physical deformity, crippled legs, arms and back, and disfigurements) form the largest group of the physically handicapped division. They are also the easiest pupils to rehabilitate through vocational training and placement. For many no special types of training are necessary because they can enter the regular classes in vocational or occupational schools, provided the type of work selected is not precluded by the kind or degree of disability. The importance of selection of courses of training in the light of the nature of the pupil's disability is noted in the following quotation:

> Of particular importance in the vocational guidance of the orthopedically handicapped is the medical examination. Included in the report of the medical examination should be a statement of the limitations as to what types of work may not be undertaken by the individual; the limitations as to recreation and athletics; particular physical education or physical therapy which might be beneficial and any limitations as to pursuit of the regular physical education program of the vocational high schools. The findings of the physician on the medical examination and his recommendations should be carefully considered in planning the vocational training.[4]

For those who cannot become wholly self-supporting the sheltered workshops, such as the Goodwill Industries or Craft Shops, offer good opportunities for employment. More attention should be given by the states and local communities to possible avenues of employment for handicapped persons.

Special appliances may be necessary for some individuals but as far as possible special machines and equipment for training should be avoided because these will rarely be found on the commercial or industrial job.

2. Deaf and Hard-of-Hearing Children

The deaf and hard-of-hearing pupils should be guided into vocational-training courses which prepare for occupations where this handicap is not objectionable. In addition to all of the tests used for physically sound pupils, this group should be tested in regard to degree

[4] *Orthopedically Handicapped Children*, p. 74. New York: Board of Education, 1941.

of hearing by the use of the audiometer. The vacuum-tube type of individual audiometer provides a more accurate test than the phonograph type which tests in groups of 40. Obviously, these pupils should not be trained for occupations where hearing is necessary. Some vocations such as patternmaking, office-machine operation, certain phases of printing, dental mechanics, mechanical bench work and similar jobs are suitable, provided physical hazards are not present.

Lip reading may assist the majority of this group to achieve satisfactory social adjustment and aid them in acquiring vocational competence.

3. Speech-Defect Cases

Pupils with speech defects, such as stammerers, clef palate, and aphonia cases, are numerous. They fit into the vocational-educational program according to aptitude and ability to take the training desired. The handicap is largely one of placement. Progress in training is often retarded because of mental suffering caused by the prominence of the disability. It is obvious that such cases require unusual treatment on the part of sympathetic instructors.

To enable a boy or girl to overcome stammering, stuttering, or other speech handicaps and at the same time to keep up with his regular class work is the purpose of the speech-correction classes offered by the Seattle public schools, as noted in the following statement:

> The importance of treating speech defects can only be fully appreciated when the civil effects produced by these disorders are understood. Many children are considered mentally retarded and backward because of a speech defect. To use the words of one of the students at the speech-correction class, "It's harder to get on in school if you stutter than it is for ordinary boys. It takes you so long to answer a question that you look as if you were stupid and the others laugh at you. No one likes that."
>
> The child who enters a speech-correction class does not give up his regular class work. Elementary-school children attend speech classes two half-days a week, while intermediate and high-school pupils devote as much time as is found necessary to meet their respective needs.[5]

4. Cardiac and Tuberculous Pupils

Pupils in this classification are often disturbed mentally and require considerate treatment, although such disability does not affect

[5] "How Speech Correction Classes Aid Seattle Children to Overcome Handicaps," *Seattle Schools*, September, 1929.

the pupil's intelligence. Vocational education should be given under favorable working conditions, good ventilation, clean, dry and well-lighted shops, and in the courses which fit them for the lighter types of work.

Rest and proper food are essential for these pupils. The training program therefore, should not be strenuous, overtiring, or heavy manual work.

The committee's report on cardiac classes and the care of cardiac children in New York City points out the many difficulties in connection with the education, training, and placement of this group. The report includes the following:

> The assignment of cardiac children to special classes is not based upon adequate diagnostic criteria. There has been a lack of suitable procedures in the management of the cardiac classes and the teachers have had inadequate training for the management of such classes. Physical arrangements for rest periods have been poor. The administrative difficulties involved in the admission and discharge of children to and from segregated classes have prevented caring for children on a short-term basis.
>
> There is a lack of attention to the actual educational needs of cardiac children with a view to preparing them for suitable vocations.[6]

Some kinds of work which have been found satisfactory for the occupational training of such pupils include certain types of electrical-appliance repair, watchmaking and repair, commercial art, show-card writing, dental mechanics, photo retouching, and commercial work under good working conditions.

5. Pupils with Defective Vision and the Blind

The blind and defective-vision pupils are difficult to educate and train for employment, but the task is not impossible. A large percentage of the cases with 50 per cent or more vision can be prepared for remunerative employment. The blind are being trained largely in special schools but there are many outstanding examples of satisfactory training along with physically fit pupils.

Special facilities for the pupils who suffer either temporarily or permanently from eye weakness should be provided by all school systems. The following excerpts from reports of two city school systems

[6] *Cardiac Classes and the Care of Cardiac Children,* pp. 93-94. New York: Board of Education, 1941.

suggest procedures which may be adopted for the promotion of the effectiveness of school training on behalf of such children.

Students in the sight-saving classes do as much of their work in the regular classes as possible, especially if it does not involve close use of the eyes. This policy is followed because the partially sighted child must learn to adjust himself socially, to become a part of the regular school, and to engage in the regular classroom activities.[7]

Sight-saving classes make it possible for such a child to master the regular course of study for the first eight grades and to enter high school as well prepared as the child with normal vision. To expect a child whose eye handicap cannot be corrected with glasses to make normal progress in the regular classroom, with its close and exacting demands, is to deny him educational opportunity. His attempt to keep up with his class usually results in repeated failure and discouragement and, frequently, in grave injury to his already weakened eyesight.[8]

There are many unusual blind persons like Helen Keller and famous musicians, but a large number not popularly known have achieved success in their chosen vocations. One outstanding case is twenty-year-old Maurice E. M. who graduated from the Baltimore Boys Vocational School two years ago as a radio technician and has carried on successfully in a radio shop in a small city. He was a good student but his success is partially due to a sympathetic group of instructors who developed what is called a "videlyzer" with which he reads circuit diagrams and diagnoses all radio trouble before attempting repairs. Blind cases must be handled by specially trained teachers, and such pupils must be carefully supervised.

The results of tests for visual acuity are absolutely necessary in the classification of pupils for proper school placement. The courses selected by pupils in the sight-saving classification should be those which will not accentuate existing defects. Classrooms and shops should be fitted with special equipment, including adequate diffused lighting without glare, adjustable desks for relief of eye strain. Large type should be used for all instructional material. The occupations found to be suitable for pupils with sight handicaps include those in which work is done by hand or with specially guarded machinery, such as sewing machines. The use of certain office machines and services in other occu-

[7] *Report of the Superintendent of Schools*, p. 247. Chicago: Board of Education, 1936.

[8] The Opportunity of Sight-Saving Classes, *Seattle Schools*, September, 1926.

pations where the sense of touch is important may be undertaken by many persons whose vision is defective.

VIII. Employment of Handicapped Persons

This is one of the difficult problems facing all handicapped persons. Satisfactory placement is made only by personal contact with employers, and periodic follow-up of workers after placement is essential. It is necessary to "sell" all employers on the idea of employment of handicapped persons. Everything possible should be done to make employers realize that this is an obligation which they owe to their community. It is far better economically and socially to have handicapped people earn their own way than to leave them in the status of dependency. The person doing the placement work must be thoroughly familiar with the various types of handicapped children and also thoroughly acquainted with the training and abilities of the candidates for placement.

Some of the principals of the vocational schools in New York City indicated that they were concerned about the difficulty of placement of orthopedically handicapped students. The following suggestion was offered as a means of overcoming this difficulty:

> There is difficulty in this regard, but it can only be overcome by the education of prospective employers as to the abilities possessed by this group of individuals. The vocational schools can do much toward the solution of this problem through affording orthopedically handicapped youth the opportunity to pursue their courses in full competition with the able-bodied. The experience of those engaged in the field of rehabilitation of the orthopedically handicapped indicates that, if permitted so to compete, the handicapped youth will give excellent account of themselves. The vocational schools, being the anterooms or corridors to industry, should lead the way. Anticipated difficulty of placement should not stand in the way of affording youth the opportunity to prove themselves.[9]

Most physically handicapped children will, upon reaching maturity, participate in the life of the community. To do this, they must succeed at work. Every boy or girl placed in a job should be followed up until it is certain that he makes the proper adjustment and is doing work satisfactory to his employer. Only close contact with employers will make sure that training has been adequate and complete.

[9] *Orthopedically Handicapped Children,* p. 70. New York: Board of Education, 1941.

IX. Conclusion

A program for successful vocational adjustment of the handicapped or maladjusted involves four phases: determination of individual ability, guidance, training, and placement. The objectives of vocational training and the methods of attaining these objectives are similar for the physically impaired and the physically normal. Vocational guidance and placement for handicapped pupils, however, involve problems not present in the treatment of the normal.

While the problem of training handicapped children may not be large in comparison to the whole educational program, it is a very vital part of the whole program. Each pupil should have as much general education as it is possible for him to receive and, in addition, should be trained to be self-supporting. This will make him self-respecting. A good program of guidance and counseling for these youth is important. Tests which are particularly applicable are exceedingly valuable in diagnosing the abilities of handicapped boys and girls. Training for work which these youth can do naturally follows proper selection. Vocational education for them must be adaptable and thorough. The proof of this will be the ability of the pupils concerned to carry on in their chosen vocations. The program for this group is not complete until they have been placed in suitable occupations and followed up for a period of time sufficient to determine whether they will continue to be successful.

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CHAPTER XIX

VOCATIONAL EDUCATION IN CORRECTIONAL INSTITUTIONS

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I. INTRODUCTION

A description of vocational education per se in the correctional institution would differ from that of the ordinary vocational school. In some correctional institutions may be found all of the elements which one may believe to be required in good vocational teaching: purposeful objectives, effective methods, excellent equipment, skilful teachers. In others the program of instruction is as poor as one could imagine, while in many there is likely to be no instruction at all. In any correctional institution there is always the advantage of being able to use real jobs in institutional maintenance and construction for training purposes. Of greatest importance, however, is the unique place vocational education may have, and in well organized programs does have, in the larger purpose of the correctional institution—namely, correctional treatment. *Vocational education in correctional treatment is also social education* and is usually of great importance in that respect. A vocation is only one of the tools required by any man who would live constructively and acceptably in our society. One also needs other equipment such as mental and emotional stability, good health, a sense of belonging, an understanding of social purposes, and other implements required for effective social living. Those confined in correctional institutions are seldom deficient in one respect alone—vocationally, or otherwise. Their deficiencies are usually numerous. Consequently, several simultaneous approaches to correctional treatment must be made and all of these co-ordinated toward one objective, that is, the socialization of the individual.

In so far as vocational education is concerned, the problem is to co-ordinate it with all other elements of correctional treatment. Those who are likely to read this chapter will, it is hoped, want to know about

that rather than to see the specifics of applying vocational education described again. Some readers may be only vaguely aware of the correctional institution. Others may not give enough attention to the fact that many of those who are in correctional institutions would not be there if they had not failed to receive proper education and to acquire marketable vocational skills under normal conditions. Some may have little appreciation of the vile, sordid, and destructive milieu the reformatory or prison is in the absence of constructive activity, that is, work and social and vocational education. Moreover, there are those who do not know just how difficult it is to place the ex-inmate of the correctional institution back into the community for another start in life. Perhaps what is said in the following pages of this chapter may serve to stimulate new and additional interest in the correctional problem. Those who are likely to read here could be most helpful. The bibliography at the end will be useful to anyone who may wish to explore the problems of correctional treatment further.

II. Some Definitions

1. The Correctional Institution

The term *correctional institution* is most commonly used in modern penology to describe a prison or a reformatory wherein there operates a purposeful and more or less effective program of correctional treatment. In this discussion the term will have that restricted meaning. In the absence of purposeful correctional treatment a prison or a reformatory should not be called a correctional institution because the common punitive variety of prison or reformatory may be more anti-correctional than it is correctional.

2. The Objective of Correctional Treatment

Broadly stated, the objective of treatment in the correctional institution is to return its inmates to the community willing and able to live as law-abiding citizens. The treatment process in such correctional institutions is commonly described, perhaps euphemistically, as *rehabilitation,* or *resocialization. Reformation* is an older term which is now being discarded along with other concepts of outmoded penology.

3. The Modern Mode in Penology

The modern mode in penology consists of an attempt to apply all up-to-date knowledge of crime causation and prevention, and, as well,

of the criminal himself to some practical purpose in penal institutions in order that confined persons may be treated therapeutically with the result that when they go forth they will live as useful and law-abiding citizens. Treatment tries to be scientific. Offenders are confined as punishment and not for punishment. Punishment is valuable only as it is effective in treatment. In truth, the methods of modern penology are still very largely in the conceptual stage. Imprisonment as punishment for crime is a nineteenth century device. Change in penological thought and practice is taking place slowly but with increasing impetus. Since 1930 there has been greater practical effort to find realistic and effective ways to reform the inmates of prisons and reformatories than in all the years before. In modern treatment the tendency is toward trying to discover the cause of each individual's antisocial conduct in order that if possible it may be removed. It is a diagnostic and prescriptive approach. This procedure demands the services of such specialists as physicians, psychiatrists, psychologists, sociologists, social workers, educators, and, in addition, intelligent and trained personnel in each of the functional aspects of the institution. All workers must understand purposes and procedures to the end that their individual contributions may be integrated. The physical appurtenances required by modern treatment are extensive and must include buildings designed to express the character of their purpose as well as to facilitate it. There must be adequate provision for laboratories, shops, industries, schools, supplies, and equipment.

III. Correctional Treatment

1. Inmates of Correctional Institutions

A common fallacy is that the prison or reformatory inmate is one who is peculiarly set apart from the rest of us by nature. He is "different." He is perverse. He is vicious. He is feeble-minded. He is antisocial. He is unbalanced emotionally, or a psychopath. He is a drug addict. What else is he? Many other things perhaps. In any event, he is one to be feared—one who may injure any of us. The fact is that there are as many individual differences among prisoners as there are among the remainder of us. Prisoners, like other men, are what they are as a result of the interplay of their individual and inherited traits and characteristics with the forces in their respective environments. We do have prisoners who are perverse, vicious, feeble-minded, anti-

social, unbalanced emotionally, psychopaths, drug addicts; any one of these, or a combination of one or more and other traits. However, many who have never been convicted of crimes also possess any or all of the traits one might observe among prisoners. Furthermore, it is reasonable to assume that there are many more people who have committed criminal acts, even vicious ones, outside of prisons and reformatories at a given time than there are inside of them. Undetected offenders against the laws of society are in all of the walks of life, the high places and the low, and in all occupations and professions. The prisoner is legally a criminal because he has been convicted of the commission of an offense against the criminal code. That is the one clearly discernible significant difference between prisoners and the remainder of us. From that point on, to know the prisoner one must study him as an individual. Such study will reveal group characteristics. It is important to know what they are even though we cannot always determine how significantly different they are from those of the nonprisoner group. To the extent that we can know what the group and individual differences are, to that extent may treatment procedures be suggested. To the extent that we can know the significance of differences, to that extent may we be definite in outlining suggested procedures. A significant group difference between prisoners and nonprisoners is that *nearly all of those incarcerated in correctional institutions are vocationally untrained and possess poor work habits.* The discussion which follows will be focused upon the vocational training phase of treatment.

2. The Vocational Status of Prisoners

Numerous studies for the purpose of determining the vocational status of prisoners have been made. Among adult prisoners (average age range from 23 to 28 years) the results have usually fallen within the percentage ranges indicated as follows:

Professional: Less than one-half of 1 per cent
Skilled: 8 to 11 per cent
Semiskilled: 12 to 16 per cent
Clerical: 12 to 16 per cent
Unemployed at time of arrest: 60 to 70 per cent
Previous enrolment in vocational training courses: 4 to 8 per cent
Completed vocational training courses: 1 to 3 per cent

Enrolment in an apprenticeship: 6 to 8 per cent
Completion of an apprenticeship: 2 to 4 per cent
Number of different kinds of employment prior to arrest: 0 to 12
Average number of different kinds of employment: 5
Average length of time on one job: 9 months

Similar studies of younger offenders in reformatories reveal a higher degree of vocational inadequacy than that of adults. The majority of prisoners drift from job to job without sufficient vocational skill to command any permanency of employment or an adequate wage. Periods of unemployment between jobs are long and frequent.

3. The Educational Problem

Vocational education in the correctional institution must be considered in relationship with wider aspects of the educational problem.

In any inmate group a wide range of individual differences will be noted. The distribution of native intelligence seems to lag slightly behind that of comparable nonprisoner groups with the greater part of the distribution below average. But it is characteristic that at least three-fourths have sufficient abilities to succeed as self-sustaining members of society. In school achievement the group does not come up to its own intelligence level. Many were behavior problems in home and school and remember their school days as distasteful if not with antagonism. Many have preferred idleness and dishonesty to the confinement and limitation of activity of small-wage employment which has appeared to be a slow method of achieving the type of life they desire. Many have felt injustices and maladjustments in our social and economic system. They know that graft is all too prevalent. They know that the legal system is in many ways inadequate and inefficient and that protection can often be secured for a price. They have come from homes that are unwholesome in almost every respect and from neighborhoods that have been deleterious to the rearing of children. Parents have exercised unwise oversight. Parental discipline has been lax or absent, extremely erratic or unduly repressive and fear-inspiring. Homes have not maintained acceptable cultural and ethical standards and in some of them criminality and vice are so common as to amount almost to a tradition. Poverty and its concomitants have starved mind, body, and spirit. Recreational outlets are the streets, gambling, excessive drinking, and unhealthy forms of sex expression, all of which lead

to associations with vicious, depraved, and criminal companions. A gradual evolution from childhood maladjustment to adult criminality takes place. Thus, the large task in the educational program of the correctional institution is that of socialization or *social education.*

IV. The Educational Program in Correctional Treatment

1. Analysis for Classification and Segregation a First Step

The first step is to determine the nature of the training program. This is an analytical process. Just as in any other training situation, it is necessary to answer many questions, but in the correctional institution it is also necessary to answer additional questions for the purpose of bringing into focus the unique character of the ultimate correctional program. Next is the particularized study of the group to be trained. One of the first outcomes of such study is revelation of the fact that organization for correctional treatment must be based upon the operation of a satisfactory plan of *classification and segregation.* Basically, such plan consists of the mechanics for studying each individual trainee (prisoner) for the purpose of classifying him in terms of his own correctional-treatment needs in order that he may be segregated for training with a group having somewhat similar needs. In the large correctional system several important segregation categories will be found to exist. For example, there would always be the mentally and the physically ill who would, first of all, receive treatment for such ills. Then, there would be the almost hopelessly socially maladjusted as contrasted with those who are potentially socially adjustable. Theoretically, the range of categories would extend between discovered natural limits, and treatment facilities would be provided accordingly. Actually, in no correctional system today is there anything like complete development of classification categories. Groups are limited by existing facilities for segregation.

2. Analysis to Determine Social Liabilities and Assets Required for Organization

After classification and segregation for an entire correctional system, the institutions comprising the system should classify their inmates in a similar manner. An early step in the process is analysis of the institutional group for the purpose of determining the social assets and liabilities present among the prospective trainees. Such analysis is re-

quired for determining the limits and type of organization for the program. Tables I and II which follow illustrate this point. The figures deal with one hundred inmates of consecutive number (a random sampling) of Wallkill Prison. Wallkill Prison, a unit in the New York State correctional system, is a medium security institution to which are transferred first-offender, male, adult felons from the State's maximum security prisons for the purpose of their vocational training or retraining.

TABLE I.—Results of Analysis of Cases of One Hundred Wallkill Prison Inmates of Consecutive Number To Determine Frequency of Their Characteristics Which Appear as Social Liabilities

Social Characteristics (Liabilities)	Frequency of Occurrence
Nature and circumstances of crime	55
Substandard home conditions	50
Personality deviations	48
Criminal and antisocial associates	41
Previous criminal record	35
Occupational instability	33
Marital conflict (inmate)	27
Broken homes (parental)	26
Lack of parental supervision	19
Nomadic and shiftless mode of living	19
Criminality in family	19
Alcoholic tendencies	17
Antagonistic attitude of community	17
Destructive leisure-time activities	17
Poor school adjustment	16
No definite parole program	14
Extreme substandard neighborhood	14
Borderline intelligence	13
Sexual promiscuity	12
Lack of formal education	9
Wife pregnant at marriage	8
Institutional adjustment	7
Stepparent conflict	6
Social and personal deterioration	2
Antagonistic attitude of family	2
Physical limitations	2

TABLE II.—Results of Analysis of Cases of One Hundred Wallkill Prison Inmates of Consecutive Number To Determine Frequency of Their Characteristics Which Appear as Social Assets

Characteristics (Assets)	Frequency of Occurrence
Good institutional adjustment	72
Possesses interest in vocational or academic training	62
Family interested in his welfare	55
Occupationally stable	43
Time to serve in prison	40
First criminal offense	39
Age	33
Above average or average intelligence	28
Favorable previous school adjustment	21
Favorable home background	28
Definite parole program	10
Vocationally competent	7
Favorable attitude of community	4

Tables I and II are not in themselves conclusive. Without the data at hand upon which they are based, the individualization of the treatment program cannot proceed at all. The tabulated data are significant because they establish the framework of the educational offering. These data give an overview of the training problem. They indicate the scope and content of the curriculum. They illustrate less significant yet essential considerations in the functions of administration, needed teaching personnel, program articulation, teaching stations, extent of program costs, and other similar factors.

3. The Wallkill Program

The space limitations of this discussion do not permit a detailed description of all of the steps in the organizational procedures which underlie a modern correctional-treatment program. It would seem more important for our purpose here to give a brief description of an organized program. There are many such which would serve as good illustrations. However, the Wallkill Prison program will be described because of the writer's close connection with it.

The guidance counselor of the prison classification staff visits the maximum security prisons of the state periodically for the purpose of interviewing inmates eligible for transfer to Wallkill. The results of the interview are transmitted to the warden at Wallkill for review and ex-

amination. Department of Correction "general order no. 2" sets forth the criteria of selection. The warden measures each prospective transferee by these criteria and reports his findings to the commissioner of correction who makes the final selection of those to be transferred. Because Wallkill Prison is a medium security institution (without walls) offering extensive opportunities for training, such factors as intelligence rating, psychiatric diagnosis, physical condition, educational background, work experience, and post institutional plans receive careful consideration. From the custodial and administrative standpoint such factors as previous criminal record, type of crime committed, and time to serve are also considered.

After undergoing routine administrative reception requirements, the newly arrived inmate is furnished with a booklet containing the rules and regulations of the institution. This booklet also contains a detailed description of the reception procedure, the institutional objectives and program. There is also information for his guidance in taking full advantage of the opportunities available.

During the preliminary interview with the guidance counselor discussion is centered about his temporary work program, the different staff members who will interview him shortly, and a variety of personal matters. At this time contact is established with the inmate's family or closest relative to whom an explanation of the inmate's transfer is made, also the purpose of his transfer, institutional opportunities, and the like. In addition to being solicited for helpful suggestions concerning the inmate's present and future, the family is completely informed concerning their permitted relationships with the inmate and the rules and regulations of the prison. Additional reception interviews are had between the inmate and the principal keeper who is the custodial officer of the institution, the institutional director of education, the recreation director, the chaplain of his faith, and the correspondence censor. The prison physician conducts a thorough physical examination. The school department administers achievement and mechanical aptitude tests. Usually, these steps have all been taken within seventy-two hours.

The social case-working agency of the institution, known as the service unit, functions jointly with the Division of Parole which is the state agency charged with supervising inmates released from prison. A resident parole officer and the guidance counselor are the representatives of parole and the prison, respectively, who are charged with the responsibility for establishing and maintaining a complete case record

of each inmate. The Division of Parole through its field staff, makes a complete investigation covering the criminal, legal, personal, educational, occupational, recreational, family, and marital history of the inmate. When this investigation is completed it is forwarded to the institution to become a part of the active case history.

Each inmate is given routinely an initial work assignment which may be farm labor, construction, or maintenance work within the institutional buildings. The work supervisors are obliged to note carefully the inmate's work performance, attitude, and spirit of co-operation and to attempt through personal contact to determine the interests of the inmate. Periodic reports in writing are submitted to the case-working agency. During this period changes of assignment may occur for exploratory purposes. The inmate is also encouraged to enrol in academic school courses and to participate in the recreational and athletic program. He may spend some of his leisure time in the hobby shop. He may attend religious services and religious-instruction classes. During this time all of the facilities and opportunities of the institutional program are made available in order to assist the man to begin the preliminary planning of his entire institutional program. Meanwhile, the service unit discusses and advises with him on any personal or family problems and renders assistance when needed by enlisting the aid of community agencies in the problem.

Usually within one month after his arrival each inmate is interviewed by the warden. The inmate is encouraged to discuss any personal problems or any phase of his institutional adjustment and to solicit further advice, if needed. The discussion with the warden is entirely informal and serves to give the inmate the feeling that his welfare is the concern of the entire staff. The warden endeavors to point out the entire process of induction into the institution and to set the stage for what is to follow.

Within sixty days after reception the inmate is scheduled to appear before the program committee. Each member of this committee, which consists of the warden, principal keeper, physician, director of education, director of recreation, adjustment supervisor, guidance counselor, and parole officer, comes to the weekly meeting of the committee after having interviewed each inmate one or more times and being thoroughly conversant with all of the details contained in each case history. By the time an inmate meets the committee his case record has been completely developed and synthesized. The synthesis guides the committee in

planning the inmate's program with him. The process is diagnostic and prescriptive. The inmate receives counsel and guidance from the committee. The procedure is informal and friendly and usually finds each inmate having been conditioned by the atmosphere of the institution to the point where he expresses himself frankly and freely. Before he leaves the committee, a training and treatment program has been agreed upon. As far as vocational training is concerned, whatever is decided upon is in terms of present rather than deferred values. The vocation should be one in which the inmate can engage immediately upon his parole. Each man has an indefinite sentence which provides for careful and intensive parole supervision in the community for a period of years after serving a part of the sentence in prison and no man is paroled until he has secured bona fide employment. After an inmate is placed in the institutional program the committee continues its contact with him. This follow-up function is the responsibility of the adjustment officer who acts as the direct link between the program committee and the inmate in his training.

The vocational training program includes instruction in twenty useful trades. Vocational agriculture in all its specialized phases is also offered in connection with general farming and rotating work assignments.

The organization of the vocational classes and the methods employed in teaching follow the latest thought and mode of any up-to-date vocational school as described in other chapters in this Yearbook. However, there is a distinct advantage in vocational teaching at Wallkill in that institutional maintenance and industrial activities give an opportunity for "on the job training." This is an advantage which exists in any correctional institution, but one which is rare in the typical vocational school.

All men in Wallkill engaged in agricultural work are also enrolled in the organized classes. In addition they rotate through selected shops in order to learn farm mechanics. Unless they are specializing in something, such as dairying or poultry raising, they also gain their practical knowledge by rotating assignments which give each man an opportunity to gain experience in every phase of farm work. Those who are specializing are restricted in rotation to whatever kinds of practical work may be required in their specialty. Correspondence courses in the several phases of agriculture are provided by Cornell University.

Vocational business training is not stressed in Wallkill for several

reasons: the business field is very largely closed to the man who has committed a felony; the inmate received at Wallkill is seldom a candidate for business training since men are usually selected for other types of training; few men in prison, because of lack of funds, can establish their own businesses, even on a small scale; the institution is not well equipped for business training. However, since some Wallkill men are interested, classes in salesmanship, commercial law, shorthand, and bookkeeping are usually included. Enrollees' interest may be more avocational than vocational as a rule and the vocational value of the courses is in relationship to other training. When the occasional inmate has a legitimate and practical interest in business training, that is provided for by giving him an office assignment, special coaching, books, and perhaps correspondence courses. As a general policy, however, vocational training in correction should always aim toward an occupation which the prisoner is likely to be able to get, other things being equal, when he gets back "on the street." This means attention to the individual training-needs of each man, not impersonal application of a cut-and-dried program.

"Prison industries" in nearly all states are established with two purposes in mind: the occupation of the prisoner's time and a financial return to help reimburse the state for the prisoner's keep. As a consequence, prison labor is usually directed toward one outcome: production of consumer's goods either for state use or for sale to the public. While usually prisoners receive a small daily wage, a part of which they may be required to save against the day of release, any training they receive in their occupations is likely to be incidental and not of value in the future. At Wallkill there is only one prison industry, the manufacture of executive-type office furniture. This industry is so organized that excellent training in cabinetmaking, upholstering, and furniture finishing is afforded.

In Wallkill some men find it advantageous to complete an interrupted grammar-school or high-school education. For all such, a complete and accredited elementary- and high-school curriculum is available for which proper credentials are issued by the New York State Education Department. However, institutional officials do not encourage such enrolment unless there is a demonstrated need for it and such need appears greater than that for vocational and related vocational training. The problem of illiteracy is no longer of great consequence in the correctional institution. Nearly all inmate groups will average

from sixth to eighth grade in school achievement, the mode being seventh grade. In New York and other northern states the illiterate or near-illiterate prisoner is likely to be a Negro not very long out of the South.

The leisure-time program in addition to the recreational activities and intramural athletics, gymnasium, movies, and amateur shows, also provides the facilities of the library and study rooms, the hobby shop, religious-instruction classes, and courses of an avocational nature including navigation and study of the universe, arts and crafts, musical activities and classes, advanced English and English literature, correspondence courses, and public speaking.

The burden of responsibility for good discipline is placed upon the inmate himself. Discipline at Wallkill consists of the orderly observance of its comparatively liberal rules and regulations. The inmate is given to understand that his remaining at Wallkill to receive the benefits of its opportunities is dependent upon his willingness and success. Total failure or serious infraction means returning to a maximum security prison and other penalties. Minor infractions are handled by a disciplinary court which may inflict such penalties as withdrawal of privileges, extra work, or loss of time.

Periodically, progress reports are required from all work supervisors to assist in evaluating the adjustment of the inmate. All shop instructors and teachers are obliged to submit quarterly reports indicating the units, jobs, and grades achieved by each student and the extent to which they believe the program in effect should be continued or revised. Cases of inmates who are reported as maladjusted in their programs are referred to the adjustment officer for initial investigation and study. Extremely difficult cases may be referred back to the program committee for revision and review.

After an inmate has served the minimum of his sentence less possible compensation for good behavior and application, he is scheduled for an appearance before the parole commissioners. Complete and detailed summary reports of the inmate's institutional record, the story of the offense, his previous history, and a possible parole program including residence and employment are before them for study and analysis. If favorably considered, the inmate is advised after the meeting as to his date of release under parole supervision.

Immediately after meeting the parole board, those inmates who are approved for release are scheduled for prerelease classes. Selected mem-

bers of the staff teach these classes which aim at direct preparation for the first days of freedom. Those eligible for selective service are registered. Social security numbers are obtained or renewed. The physician gives information on health, hygiene, and community facilities for treatment. The details of release procedure and getting home are explained. The parole representative discusses the theory and practice of parole and answers questions relative to the postinstitutional period of supervision.

The record of a released inmate's progress while under parole supervision is made available to the prison. Thus the final step, evaluation of the treatment program in terms of the parole success of inmates, can be made.

Underlying the inmate's progress in Wallkill is the guidance he receives constantly by those of the staff who maintain contact with him for the purpose of helping him with whatever phase of his development he cannot best succeeed in alone. It is the guidance aspect of the program which may be of greatest importance. In this connection it might be helpful to glimpse briefly at the cases of two inmates whom we shall call "A" and "B."

Inmate A

The preadolescent life of this boy was uneventful. His early progress in school was normal, his attendance was regular, and in the opinion of school authorities his entire adjustment to the school program was satisfactory. However, as he grew older, it was noted that he developed an increasing tendency of indifference toward formal studies. When he had completed the elementary grades he was no longer interested in school and did not enter high school. He began a life of idleness. His parents were not concerned about this and in fact encouraged his shiftless existence by providing him with the necessities of life and with spending money. Occasionally *Inmate A* would take a laboring job but he never worked more than a few days at a time. He liked alcoholic liquors and his parents not only offered no objection but in fact provided drink for him until he became a typical "bar-fly." This existence culminated when *A* was twenty-one years of age by his entrance into prison with a sentence of seven and one-half to fifteen years. He was convicted of robbery in the second degree as a first offense. When this young man's prison-training program was being considered it was noted that not only was he *untrained vocationally* but also that *he did not know how to work*. He was placed in the carpentry class and the first point of attack by the instructor was the inmate's shiftlessness. After two years *A* was an advanced apprentice needing only occasianal direction and supervision. In addi-

tion to learning how to work industriously in school and shop, he discovered that he could exercise good judgment and that his mechanical ability was better than average. He took a new and enthusiastic interest in his school subjects and extended his education considerably. Since leaving prison he has worked steadily as a carpenter and shows every promise of continuing his life as a useful citizen.

Inmate B

This man had a normal childhood and a good home. He is intelligent, has a fair education, and has always been industrious. With his marriage there began an ideal home life. His wife and two bright children of high-school age are devoted to him. Ten years before he came to prison he was employed as a laborer by a large corporation and later became a foreman in charge of important operations. He received an excellent wage and was happily looking forward to the time when he would send his children to college. At about this time a brother-in-law of *B*, of whom he knew almost nothing, appeared upon the scene. The brother-in-law and his wife, *B's* sister, during their many years of married life, had only infrequent contacts with *B's* family. According to *B* he was led to believe that his sister's husband was a business man who carried on promotional activities in various parts of the world. After long periods of absence, when they would visit *B's* family, they appeared to be prosperous. The brother-in-law seemed to be shrewd and successful. After a happy Christmas reunion, *B* was approached by his relative who asked for a loan of what was, to *B*, a considerable sum of money. Although *B* was surprised, he was sympathetic and wanted to help. He did not have money of his own so he borrowed from his aged mother-in-law who was a widow in better than ordinary circumstances. The loan was never repaid to *B*. One day the brother-in-law reappeared. Subtlely at first, then with threats after he had revealed his true character as an habitual criminal, the brother-in-law induced *B* to play a chump's part in a crime committed by the brother-in-law and his gang. The crime was successful until, weighted with remorse, he confessed the details of the plot and deed to the authorities. *B* received a comparatively light sentence. From the moment of his participation in the crime he was overburdened with sorrowful regret not only in contemplation of the injury he had done to his family and to himself but also because of his momentary indulgence in a type of conduct always abhorrent in the code by which he lived. He had never been dishonest before nor approved of dishonesty. His career and his life were wrecked. In prison he faced several problems. He had to regain self-respect, hope for the future, in fact, the very desire to live so that he could atone for his error. Moreover, he must equip himself for a new type of employment because he could not go back to his former occupation.

The foregoing cases represent those which are more or less characteristic of at least 50 to 60 per cent of all adults received in correctional institutions. The remaining 40 to 50 per cent are likely to be persons more or less confirmed in habits of criminal action and antisocial conduct to an extent that for all practical purposes they are nearly or wholly hopeless and beyond redemption. Theoretically, perhaps no man is so vile that he cannot achieve social redemption, but, practically, those who appear most promising should receive first attention.

V. Summary and Conclusions

While there has been a steady and important advance in the shaping of effective correctional-treatment programs during recent years, there is no program today which has achieved perfection or which even closely approaches it. Most significant is the fact that there has been marked progress in thought and action. The whole program of delinquency and crime prevention is steadily securing the increased attention of those of our citizens most capable of solving it in contrast with past tendencies to leave its solution entirely to law-enforcement officers, the legal profession, judges, jailers, and questionably sympathetic or misguided benevolence.

Society is at present committed to imprisonment as the major method of dealing with convicted offenders against its laws. That commitment will probably stand in some form for a long time to come, but the ineffective and occasionally pernicious programs of many prisons and reformatories will not long withstand the increasingly critical scrutiny they have begun to receive. Already the public is beginning to ask, "Why send an offender to a prison or a reformatory if he comes out bitter against society and less able to cope with his environment than when he entered?" Ninety-five per cent of all those who enter penal institutions return to the community eventually, a majority in less than five years. The cost of maintaining our prisons and reformatories is approximately sixty million dollars annually. Informed penologists know that this sum is largely wasted if it is considered as an insurance premium against crime. Correctional institutions are more sanitary than formerly and the housing and physical facilities are somewhat improved. But modern penology holds that these physical improvements, although commendable, cannot in themselves reform criminals. If the institutions are not to be stepping stones to more crime and more imprisonment they must be more than physical structures for the tem-

porary retention of offenders. They must in addition be places wherein men can live wholesomely while being overhauled spiritually, physically, mentally, and socially. Clinical procedure, purposeful treatment programs, and capable personnel are indispensable. Modern penology goes farther. It recognizes the most promising effort in crime prevention to be that which is expended in making our communities better living places: the suppression and elimination of all of those well-known influences and factors which degrade humanity and the strengthening of those which are beneficial. It sees the home, the church, and the school as first-line correctional institutions, and penal institutions and procedures as the last. As the concepts of the modern penology increase and become clearer there will be less need for prisons and reformatories.

Crime and all that is back of it is coming to be seen as a social problem with ramifications extending to the full dimensions of the societal relationships of mankind as well as to the core of what man is himself. As understanding slowly develops there also develops at comparable pace increased force in attacking the whole problem rather than isolated segments of it. The force of all of the sciences is being focused and refocused co-operatively. The physician, the biologist, the psychologist, the sociologist, the economist, the penologist, the educator, the cleric, and many others are beginning to know and appreciate each other and therefore to organize for concerted action. A body of principles and a plan of action is being evolved. The significance of progress is, however, not so much measured by the visible and tangible evidence available as it is by the disappearance of inertia. Since Austin MacCormick struck out against correctional institutions nearly fifteen years ago, he has been joined in the challenge he accepted by scores of the ablest penologists and educators in the land. In some parts of our country today it is not uncommon to find the most effective vocational education available in the community in a correctional institution. Noteworthy is the comment of a superintendent of a large city school system who said, "In this state a boy has to break the law in order to gain the best opportunity to learn a vocation which will bring him a decent living."

Not even the correctional worker takes comfort from that statement. We would all rather see American youth nurtured in decent communities and homes where there would lie those opportunities which are the heritage of free men. Every dollar that can be put into good vocational

schools will bring a profitable return in preventing the vicious economic, moral, and social waste of crime so large that we cannot now compute it because the effects are farther reaching than is our vision and means for computation. Today, the correctional institution stands in the position of having to include vocational training in its treatment program largely because those with whom it deals, through no fault of their own, have not had an opportunity for vocational training elsewhere.

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CHAPTER XX

PRIVATE VOCATIONAL SCHOOLS

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The facilities for vocational education under public control are being expanded at a tremendous rate throughout America. Moreover, the sphere of public support and supervision of occupational training is an ever-widening one. Opportunities for vocational education are now provided for many groups of persons entirely without the pale of consideration ten years ago. Public agencies are now directing an extensive program of adult education, foremanship training, apprentice training, training for public servants, and many other types of training formerly considered beyond the scope of governmental activity. Apparently, there is no field in which it is not considered a function of the state to aid, promote, and provide vocational education.

In spite of this growing area of governmental sponsorship, there still appears to be a legitimate place in our educational and industrial life for the private vocational school. Past experience has rather clearly demonstrated the need for this type of school, whether conducted for profit or operated on a nonprofit basis. Such schools serve large segments of the population to whom the public vocational schools and other public agencies are not available. The actual increase in the number of such schools, the fields in which they are operating, and the growing enrolments are further evidence of the need.

I. THE PLACE OF THE PRIVATE SCHOOLS IN THE PROGRAM OF VOCATIONAL EDUCATION

In the development of a national program of vocational education, private schools have filled a real need because, on the whole, private enterprise and initiative have responded more quickly to the training needs in new vocations and have provided facilities for such training far in advance of the acceptance of this responsibility by public

agencies. Even today, in such a long-established and growing vocation as beauty culture, private vocational schools are probably training more than 75 per cent of all operators and all but three states have enacted laws regulating their conduct. In such fields as dental mechanics, laboratory and X-ray technique, commercial art and costume design, electroplating, electrolysis, photography, interior decorating, lithography, engraving, and many others, the public vocational schools rarely offer opportunities for training. They have tended to follow the traditional lines in the building, metal, needle, and commercial trades. Dental assisting, medical assisting, mechanical optics, and motion-picture operating are other occupations largely neglected by the public training agencies.

Private vocational schools often provide training facilities for groups of the population not eligible to enter the public vocational schools. Ordinarily, the private schools set no age limits, and entrance requirements are otherwise quite flexible. They also afford training at times and places not made available through the public schools. The schedule of attendance is adapted to the needs of the individual. He can more often than otherwise attend day or evening classes. Usually he can enrol at any time. If employment or other reasons prevent regular attendance, he usually pays as he attends, and his instruction is adapted to his needs. For these reasons the private vocational schools have filled a real void in the educational system, though the process has often been attended by many evils.

II. The Size of the Enterprise

The business of conducting private vocational schools is not a small enterprise in the United States. A great many of these schools sprang up before public vocational education had made much headway. This was in keeping with the tendency of private initiative to respond quickly to changes and new demands in the occupational pattern of our industrial life. In spite of the ever-growing sphere of state operation of vocational schools, their investment in quarters, equipment, and other facilities represents a tremendous outlay of capital and is increasing annually.

We can perhaps gain some idea of the magnitude of this enterprise over the country as a whole by considering some facts relating to private trade schools in New York State where such schools are required to obtain a license from the State Education Department. This

license is renewable annually, and each school must submit to the Education Department an annual financial and statistical report. This requirement relates only to trade schools and does not include commercial schools or schools of fine art, music, dancing, the drama, or agricultural schools.

During the school year ending June 30, 1941, approximately 275 licensed private trade schools were operating in New York State and they enrolled at least 30,000 different persons during the year. From 75 to 100 different trades and occupations were taught. Courses of study ranged from a few weeks to two years and tuition from a few dollars to $1200. New York State probably has 10 per cent of the total enrolment of the country. It is therefore estimated that private trade schools alone enrol for some form of trade training not less than 300,000 persons annually. This figure is not for attendance but for new enrolments. It is altogether likely that at least half as many are enrolled in commercial and business schools. It thus appears that there are nearly a half million enrolments, not including schools of music, dancing, and the drama. The National Home-Study Council estimates that about 600,000 persons enrol annually in correspondence schools. The vast majority of these subscribe to vocational subjects. It is reasonable, then, to estimate that approximately 1,000,000 persons annually enrol in private vocational schools, both resident and correspondence.

III. Some Characteristics of Private Vocational Schools

Reference has already been made to the readiness with which private initiative responds to the emergence of new occupations by establishing training opportunities and the service thus rendered to certain segments of the population.

In general, private vocational schools, particularly the resident schools, tend to be confined to population centers to an extent that is out of proportion to the actual distribution of the population and to its vocational needs. For example, in New York State over 80 per cent of the resident trade schools are located in the metropolitan district of New York City and 95 per cent of the enrolments are in that area. In fact, excepting beauty schools, the enrolment of such schools in the remainder of the State is very small. Aside from the law of supply and demand, this trend seems to be influenced somewhat by such factors as tradition, prestige, and fashion. Private commercial

schools are somewhat better distributed, though the same tendency is noted. Since the profit motive must take precedence over the service motive in these enterprises, it is not to be expected that these schools will be distributed on the basis of public need. A large proportion of the New York City enrolment comes from up-state New York and other states.

Another important feature of the programs of private vocational schools, as contrasted with the public vocational high school, is the intensification of the training process in point of time. The courses of study are shorter, longer hours of instruction are offered, and little emphasis is placed on theory or related work. More often than otherwise, the bare essentials of the vocation are taught without any cultural accompaniments and without much thought of affording the student a background of related technical or cultural knowledge which might make for occupational advancement. There are, however, some exceptions to be found among the well-established institutions. Emphasis is placed on the mechanical operations, and this is as it should be, although too often this is at the expense of important related and classroom work. Equipment provided for instructional purposes is more apt to be adequate than is planned lesson material. Again, in New York, it is extremely difficult to get the schools to formulate and adhere to adequate training programs. For this reason, the practical character of the training, with its emphasis on mechanical operations, is apt to be marred by the sporadic nature of the instruction.

On the other hand, and for the same reason, the instruction cannot be stigmatized as too academic. As a whole, the proprietors and instructors in the private vocational schools are more closely in touch with industry than the supervisors and instructors in the public vocational schools. More often than otherwise, the evening and part-time instructors in the private schools are working in the occupation in which they are teaching. A majority of the teachers have had recent trade experience.

In general, however, the qualifications of the teachers in private vocational schools are in no way comparable to those in the public vocational schools. It is safe to assume that less than 10 per cent of the teachers in the private trade schools in New York State have completed any organized course in teacher-training, and this is probably true also of teachers in the private commercial schools. Except in a few of the highly technical schools, salaries are lower than in the public

vocational schools. There are about 70 private beauty schools in New York State enrolling not less than 3,000 persons a year, and it would be safe to say that the average weekly salary of the instructors is not more than $25.

IV. Evils Associated With Private Vocational Schools

Most of the evils associated with the private vocational schools are those naturally to be expected where vocational guidance is subordinated to the profit motive and the content and method of instruction is determined, not by sound pedagogical principles, but by the force of competition with other schools. Ninety-five per cent of all private vocational schools are operated for profit. They must earn money or eventually go out of business, and they must be able to compete successfully with their rivals in the same field. Consequently, in the organization of one of these schools three guidance agencies are sometimes operating to influence the prospective student to enrol in that particular school or to take a particular course of training. These agencies are the advertising literature of the school, the roving salesman working on a commission basis, and the director or the registrar on the premises. Obviously, none of these is in a position to counsel and advise the prospective student in a disinterested manner. Not all the schools, by any means, employ the commission salesman. Many of the better ones never followed this practice, and others discontinued it because they found that the agent, paid on the basis of the number of enrolments obtained, did not properly represent the ethical aims of the school. Many of the smaller schools rely entirely on advertisements for recruiting students.

It is appropriate to say here that reputable private vocational schools are really endeavoring to obtain properly qualified students. They usually have fairly high entrance requirements. They have an established reputation, and, for future enrolments, depend more on the influence of satisfied graduates than on the lure of advertising campaigns.

While the profit motive affects the guidance practices of these schools, competition very seriously influences the content and method of instruction. One school, trying to offer a lower tuition rate than another, shortens its courses of study, omits essentials, neglects the purchase of new supplies and equipment and, in general, impairs the value of the instruction offered. The prospective student, without the

benefit of disinterested guidance, is attracted to the school offering the shortest course and the lowest tuition rate. Schools not conducted for profit are influenced by those established on a profit basis, since there is frequent competition between them. There are a few exceptions to this, notably among the endowed schools, and, as noted before, some of the schools conducted for profit succeed in maintaining high standards of instruction and high entrance requirements.

Too often the quarters of private vocational schools are inadequate and in buildings not adapted to school purposes. As mentioned before, a majority of the teachers are underpaid and have had no formal preparation for teaching. Frequently the owners and directors know nothing of pedagogy or school administration. They have had no experience in the organization of instruction.

Another objectionable practice of some of the private vocational schools is the use of irrevocable contracts. This practice, however, is more prevalent among correspondence schools than resident vocational schools. The naïve student is beguiled by high-pressure salesmanship into signing a long and ingeniously worded agreement. If at a later time he concludes that the course has been misrepresented, that promises of employment cannot be fulfilled, or that he is not adapted to that type of training, he then finds that the contract is a legal document and is irrevocable, and that he must pay the tuition in full whether or not he continues with the course. Thousands of judgments against students are obtained annually. The courts have no other recourse where fraud cannot be proven, and litigation is expensive. New York State recently passed a law prohibiting out-of-state correspondence schools from bringing suit in New York State courts for unpaid tuition, unless the form of the enrolment agreement or contract shall have first been approved by the State Education Department.

V. The Essentials of Remedial Legislation

Since it is a function of the state to provide vocational education of many types for many groups of adults as well as of youth, it would seem that proper regulation of private agencies offering such education should be maintained in the interest of these groups and for the protection of those private vocational schools which are rendering useful service.

To this end all private vocational schools should be licensed, and the licensing agency should be the state education department. The

issuance of such a license, should be based on the formal approval of the following characteristics of the school: the qualifications of the owners or directors to conduct an educational institution; the qualifications of teachers; the quarters and equipment to be used for instructional purposes; the content and method of instruction; the tuition to be paid and the method of collecting it; the enrolment agreement or contract between the student and the school; and the methods employed in advertising the offerings and the services provided. Owners should be required to give evidence of adequate financial responsibility, and performance bonds should be required at the discretion of the enforcing authority. Licenses should be renewable annually and the fees therefor should be sufficient to meet the costs of administration. Adequate penalties for violation of the law should be provided.

The qualifications of teachers should be sufficiently high to insure sound instruction, although it will hardly be possible to have them meet the minimum requirements of vocational teachers in the public schools. The quarters and equipment should be adequate to meet the announced objectives of the school.

Schools should be required to submit a training program, outlining in detail each course of study it is proposed to offer and stating its vocational objectives. This outline should state the minimum length of the course, expressed in supervised hours of instruction, and the approximate allocation of time to the various units or subdivisions thereof. The cost of the course, including texts and supplies, should be specified. The schools should be required to keep individual student records to show that the approved course of study has been maintained.

The form of the enrolment agreement or contract, to be approved, should contain a refund clause where tuition is paid on the cash-payment plan. Where tuition is paid on the installment plan, the payments should be prorated over the major portion of the course. Sample copies of all proposed advertising matter should be submitted with each application for annual renewal as well as with the initial application for license. Any advertising matter which tends to mislead the public should not be approved.

Several states have already enacted legislation of this type, some regulating business schools, some trade schools other than business schools, some correspondence schools, and some all three. Massachusetts has just passed a law regulating private trade schools. Michi-

gan has had legislation on the subject for many years. California also provides some regulation. Pennsylvania and Indiana are considering the subject at the present time. Section 66a of the New York State Education Law requires all private trade schools to obtain a license from the State Education Department. This became effective September 1, 1937. The provisions of this statute are substantially as those outlined above. Correspondence schools in New York State are likewise required to obtain a certificate of approval from the State Education Department.

VI. Correspondence Schools

A majority of the courses of study offered by correspondence schools relate to some form of vocational training, although there are many devoted purely to cultural subjects. There are probably as many persons enrolled in vocational courses by correspondence as there are in resident vocational schools. While the above discussion is more concerned with resident vocational schools, most of the characteristics and many of the evils noted apply with equal force to correspondence schools. The proposed remedial legislation is fully applicable.

Some correspondence schools are rendering a real educational service to the people of the United States. They are affording training opportunities to persons who would not otherwise have a chance for occupational advancement. Some universities and other schools work in co-operation with correspondence schools, the faculty of the resident school aiding the student in completing his correspondence assignments. There are many vocations that may profitably be studied and mastered by correspondence, and thousands have followed this road to success. Some very effective work is being done with men already on the job in affording training in related and technical subjects in connection with their jobs, and this often with the co-operation and assistance of the management. There are several schools that have won wide recognition for the quality of their lesson material.

The criticisms of correspondence schools pertain chiefly to their enrolling policies, the advertising literature, and the methods of giving supplementary instruction. Very often, the lesson material is thorough, comprehensive, and well-prepared. The value of the material, however, is often vitiated by the lack of adequate supplementary instruction, by the lack of any adequate system of tests or measurements to determine the student's mastery of the materials, and by

the lack of proper methods of mailing instructional material. Many schools continue to mail material, even if previous lessons have not been completed, and then bill the student for payments on the basis of lessons mailed. Too often, the enrollee learns that he has done little more than purchase a textbook on the installment plan, paying from ten to twenty times the cost of comparable material available in textbook form.

The enrolling policies of correspondence schools are the most unsatisfactory phase of this form of vocational education. A majority employ salesmen on the commission basis or rely solely on the effectiveness of high-pressure advertising. Indeed, advertising costs of many correspondence schools run as high as 25 to 50 per cent of the gross income. The evidence is overwhelming that thousands of young persons, caught in vocational blind alleys and seeking some means of escape, are victims of high-pressure salesmanship or of exaggerated and misleading advertising. Less than 25 per cent of the persons enrolling in correspondence schools ever complete their courses of study. The spectre of the irrevocable contract remains to climax the disillusionment.

Most of the trade instruction given by correspondence is in the newer and more glamorous occupations, such as aviation, television, air-conditioning, Diesel engine mechanics, etc. They are quick to respond to the interests of the public in growing occupations. Schools training persons for civil service examinations are also popular. Quite a large number of schools teaching mechanical trades offer two or three weeks' resident training after completing the correspondence instruction. This feature is more valuable as a bait or selling point than as a part of the training because, usually, only a very small percentage of those buying the course ever complete it and many of them are employed and cannot give up positions to go to distant points. Usually, the school offers to pay all the expenses incident to the resident training, including transportation, room, and board. Obviously, the school would soon be bankrupt, if many could avail themselves of the so-called offer.

Remedial legislation is badly needed in this field. The public is defrauded of millions annually by the unscrupulous schools operating in this area. They impair the effectiveness of reputable schools by their unfair methods of competition. The Federal Trade Commission has some control under the Interstate Commerce Law, but this re-

lates only to unfair competition and not to the quality of the instruction offered. The need for remedial legislation as suggested for trade schools is equally urgent in relation to correspondence schools.

VII. The Effects of the War on Private Vocational Schools

Shortly after the outbreak of the war the federal government intensified its defense preparations and there soon existed a rapidly growing demand for workers in defense industries. Characteristically, private enterprise and initiative quickly responded to this demand and provided training facilities by opening hundreds of new private vocational schools, and this process of expansion is continuing and at an accelerated rate.

The federal government appropriated more than $200,000,000 for defense training up to June, 1942. This has been expended under the supervision of the United States Office of Education and through the various state departments of education. In spite of this huge appropriation of government funds for defense training, the public is spending many millions in tuition to attend private vocational schools teaching the same subjects. In this situation private vocational schools are rendering a real service and filling definite needs for training not met by the public vocational schools.

The principal defense occupations in which there has been a great growth of private training facilities are airplane and engine mechanics, airplane sheet metal, riveting and assembly, machine shop practice, welding, drafting, airplane instrument repair, and radio communication. Since such schools are required to be registered or licensed in only three or four states there are no accurate statistical data as to the rate of growth, but we can obtain some idea of national expansion from the developments in New York State where a license is required.

At the beginning of the war there were three small private vocational schools teaching machine-shop practice. Their annual enrolment was not more than two or three hundred persons. Now there are some twelve to fifteen schools with a total enrolment of several thousand. Welding schools have multiplied four-fold and enrolments have increased eight-fold. Probably 5,000 persons are trained annually and pay a tuition of six or seven hundred thousand dollars. Prior to the war, there were no private vocational schools teaching aviation, sheet metal, riveting, assembly, and inspection. In June, 1942, there were fifteen, enrolling several thousands a year. A dozen

schools are offering new courses in drafting and several are teaching radio communication and the repair of aircraft instruments. In defense occupations, with the definition rather narrowly circumscribed, private vocational schools will probably train not less than 20,000 persons in New York State in 1942 at a tuition cost of four or five million dollars.

As to be expected, there has been a big decrease in enrolments in many types of private vocational schools not connected with the defense industries. Enrolments in beauty schools have declined by almost 50 per cent since the beginning of 1940 and there is an actual scarcity of operators. Art schools and cooking schools have suffered the same experience. A considerable number of nondefense schools have closed since we entered the war.

The effect of the present war on private commercial schools has been somewhat contrary to the experience in the last war. During 1917 and 1918, according to the president of the Business Education Association of New York State, enrolments in private commercial schools increased by leaps and bounds. Since the beginning of the present war there has been a slow and steady decrease in enrolments and this decrease appears to coincide with the intensification of the war effort. By June, 1942, this decrease had amounted to about 12 per cent. It is rather difficult to account for this fully, for there is a great demand for stenographers and typists. Of course, some have been diverted to other occupations in which the initial pay is higher.

CHAPTER XXI

VOCATIONAL EDUCATION IN INDUSTRY

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I. INTRODUCTION

With the passage of the Smith-Hughes Act, those interested in industrial education received the first substantial opportunity to develop a program for the individual self-improvement of a group which had long been neglected, yet upon whose efforts we were dependent for the maintenance of the "American way of life."

We have witnessed during a period of twenty years, an evolution of vocational education which has changed even the philosophy of the movement itself. Today, school classrooms are crowded with tradesmen; productive workers in public schools, in plant conference rooms, and on the job are studying every conceivable subject from time-fuse assembly to blast-furnace operation. In every industrial community it is being recognized that "education to increase production" is a responsibility which cannot be neglected if educational, industrial, and business institutions are to serve America. The responsibility for vocational training often is difficult to allocate. Clearly, it is a local and a community affair, in accordance with the American tradition, that all education is a local responsibility. This statement is borne out by the fact that federal and state efforts are, with a very few exceptions, directed toward the stimulation and guidance of local endeavors rather than toward the replacement or control of them. However, within the community it often is difficult to secure a proper division of responsibility in specific cases.

It is observed that specific responsibility for vocational training often is shared by the public and by the private business or industry. Usually, the amount or degree of sharing is determined more or less by personalities or by local tradition. A typical illustration of the sharing

of responsibility is noted where apprentices receive shop instruction within one or more industries of a community and receive related theoretical instruction in the public schools. Accordingly, many forward-looking school boards have provided evening and adult classes specifically intended for business and industrial workers who need help in solving their daily occupational problems. Through the Smith-Hughes and George-Deen funds and similar public resources, it is often found that employees, paid from public funds, can go directly into a business or industry to carry out the training where it can do the most good. The ideal situation, realized in all too few instances, consists in having the specific responsibility for the training of a given individual allocated to his business or industry or to the public, according to which is the most efficient agency, in terms of having proper instructors, proper teaching facilities, and the most useful allocations of the newly trained workers to productive functions.

In treating the subject of vocational education in industry, the writer has elected to deal with the four principal media with which those in business and industry are concerned at this time: trade-extension education, supervisory training, apprentice training, and job training.

II. Trade-Extension Education

Few individuals today with experience in the field of vocational education would discount the importance of co-ordination between the schools and the industries. No company as an organization can have an interest in training as extensive and as varied as the interests and ambitions of each employee. While many companies, by offering "courses" in such miscellaneous things as philately and horticulture, make a sincere effort to meet employees' individual needs as well as joint company-employee needs, it is easily recognized that the industrial plant is not a suitable unit for the economical establishment of such training. It is indicated that the plant's responsibility for that training which is not pertinent to the immediate job performed becomes progressively less, and is less effective, according to the following sequence:

(*a*) Training for the promotion or upgrading of employees on their immediate jobs. (Example: teaching lathe operators to use new shortcut methods.)

(*b*) Training in the related technical information, which may be of value at some later date for promotion or upgrading in job performance in the

present field of work. (Example: teaching machinists' helpers how to read blueprints.)

(*c*) Training for improvement of morale and interest on the job. (Example: teaching laborers how their efforts contribute directly to the winning of the war.)

(*d*) Training for potential promotion and upgrading in a field not directly related to the person's job. (Example: teaching apprentices time-study methods.)

(*e*) Training in matters unrelated to production. (Example: providing golf instruction for office employees.)

Trade-extension training, on the other hand, becomes increasingly independent and increasingly less significant industrially according to the same sequence. Trade-extension training can function effectively in all five of these areas, provided the efforts are properly co-ordinated with the industry, the business, and the individual.

1. Adapting Extension Training to Occupational Needs

The sources for trade-extension educational assistance to industry are various. The local public schools, correspondence schools, private institutions, state colleges and universities, all are of service. Of these, the local public school system is of first importance because it has superior facilities and is capable of being adapted easily and quickly to the changing needs. The following discussion is devoted to a single aspect of the problem—getting the maximum of effectiveness in vocational training for industry from the established public school organization.

Co-ordination of the public school adult-education program with the needs of local business and industry is of paramount importance. This co-ordination may be assured through the efforts of a local director of vocational education, an industrial co-ordinator, a company director of training, a committee of business and industrial-training representatives, or the normal administrative organization of the public schools. This co-ordinating function is necessary to assure the adequacy of the vocational courses and the applicability of the course content.

Every trade-extension course should be subject to critical review before repetition the following semester or year. This will prevent the possibility of offering courses that are not needed or of offering content that is not applicable. Moreover, the value of intensive short-unit courses cannot be ignored if the most effective trade extension program is pursued.

Many school officials have avoided the organization of courses which appear to be directly applicable to the productive efforts of employees, while others have kept pace with the expanding philosophy of vocational education and have blazed new trails of educational service in the community. For purposes of guidance and without regard to legislation requiring payment of employees during training, adherence to the criteria established by the administrator of wage and hour division of the Department of Labor should prevail. These are as follows:

(*a*) Attendance on the part of the employee must be in fact voluntary. No training program shall be considered voluntary if it is a conditional factor for the employee's continued employment in his present job.

(*b*) The employees shall not produce any goods or perform any other productive work during such periods of training.

(c) The training course must be given outside of regular working hours.

2. Preparing the Instructor

Many trade-extension classes have failed to accomplish their intended purpose because the most available rather than the most competent individual was selected for the teaching assignment. Industrial co-ordinators have quite often designated regular day-school teachers for these positions, later being very much surprised to learn from the class participants that the content of the course could not be applied to their daily tasks.

Experience has demonstrated that teachers should be selected on the basis of: experience in the field of the course offered, reputation among fellow workers for trade proficiency, technical education, interest in teaching, and aptitude for teaching.

If possible, it is advisable to select teachers from the nonsupervisory personnel of a company or plant. This will minimize the possibility of coercive activities affecting the night-school attendance and will give added assurance that useful training will result. After certification and before beginning classroom teaching the instructor should be trained in teaching techniques and the methods of content development. While the subject of teacher training is of such importance that it cannot be covered adequately in a treatise of this length, one general principle can be emphasized here; namely, that the most important responsibility of the teacher trainer is emphasis on the application of the related theory to the student's daily task. If the course is specifically applicable, the techniques of teaching are usually secondary in importance.

3. Classroom Facilities

The question of facilities is one which has resulted in varied interpretations by local school officials. Some have insisted that trade-extension classes be conducted on the school premises whether the facilities are adequate or not. In one case, two-hundred-pound steel workers were forced to sit in chairs designed for kindergarten pupils. On the other hand, some classes have been conducted in poorly lighted sump pits or in speed pulpits above rolling mills where the noise makes it impossible to give proper instruction. Progressive vocational educators or industrial co-ordinators appear more often to be scheduling classes wherever the optimum facilities can be secured, whether on plant or school property.

It is the task of those responsible for the organization of trade-extension classes to determine what facilities are required, without regard for tradition, and to exert every influence to secure these facilities. It is a hopeful sign that schools in industrial communities are being designed with some consideration for the requirements of adult education.

III. Supervisory Training

Supervisory training, long neglected, has recently become a major problem to business and industry not only because of the intensified activity of war times but because of major changes which have occurred in the supervisor's tasks. This is particularly true on the first level of management—the foreman, office manager, or assistant supervisor. While the supervisor formerly was differentiated from other employees largely with respect to occupational skill or experience, he now is engaged in a complicated task requiring, in addition to possible occupational skill, a knowledge of law, statistics, psychology, and economics, as they influence the daily work. While formerly a supervisor could rely largely on his common sense in maintaining supervisory-nonsupervisory relationships, he now must be able to use effectively many rather technical tools of management. Industry, in its quest for a solution to its supervisory-training problem, has snatched at every straw. New methods of training have been tried and discarded. Old methods have been revised and reworked. Educational methods applicable only in academic situations have found hasty, and often unwise, applications in industry.

Extension training classes, supervised work experience, lecture courses, individual on-the-job conferences, and group conferences have been the primary methods used in supervisory training. The first two, extension training and supervised work experience, have been particularly useful in presupervisory training or in the training of inexperienced supervisors, and many companies maintain organized programs to insure their full utility. The experienced supervisor, however, usually profits most from group conferences or from the personal guidance of an expert supervisor. The conference method, for reason of its efficiency and applicability of content, has been by far the most significant method, and its various forms promise to remain the foundation of any supervisory-development program.

1. Responsibility

As in other forms of training the allocation of responsibility and the organization of effort are of utmost importance. The experience of many companies has proven that, to be successful, the program must be locally organized and maintained and must not be dependent upon outside influences. In the industrial states universities have sent itinerant professors into businesses and industries to organize supervisory training groups and to train conference leaders, on the assumption that organized training would continue without further stimulation and guidance. Such efforts have usually been of high quality. Unfortunately, however, very little attention has been given to the development of local company- or plant-training responsibility. Too often, with the withdrawal of the professorial personality from the program, the training effort collapsed. While outside individuals or agencies for this reason seldom are effective in direct supervisory training, they are today achieving remarkable results in an indirect manner through the training of management officials in the objectives and methods of conference training and through the preparation of "tailor-made" supervisory-training programs for a particular business or particular industrial organizations.

2. Selection of Training Topics

The first point to be considered in planning a supervisory training program is, "What should the foreman know?" All too often the program is planned not around what the foreman should know but around whatever the director of training, the general superintendent, the works manager, or the professor installing the program considers proper. The

tradition that an employee should not participate in any educational program involving company policies, labor policies, or the use of management tools has often interfered with the effectiveness of supervisory training. It has been a common occurrence to find foreman-conference groups discussing "how to write a letter" when their company has just signed a contract with a labor organization, a contract with which the foremen are only vaguely familiar. The decision as to what material should be presented in the supervisory conference must depend largely upon the judgment of plant managers. However, it is essential that the material be pertinent to the supervisor's daily problems. The important consideration is that the program must produce results. Conference topics fall roughly into one or more of the following categories:

(*a*) Economics of the particular business or industry. (Example: how to predict the production level of your department.)
(*b*) Employee relationships. (Example: how to handle grievances.)
(*c*) The use of management tools. (Example: the significance of job evaluation.)
(*d*) Company policy. (Example: scheduling men for overtime work.)
(*e*) Production methods. (Example: how welding can reduce maintenance costs.)

3. Methods in Supervisory Training

What method should be employed in conveying information to the supervisory force? This is an important consideration because the method chosen must be adapted to two factors: (*a*) the material under discussion, and (*b*) the nature of the group in which it is to be discussed. The use of but one medium will inevitably prove inadequate. When dealing with an experienced or well-informed group, it usually is best to have a "pure" discussion conference in which the thoughts and experiences of the group are pooled. Often the group has no general knowledge of the subject matter, and this condition requires that authoritative information be conveyed to the group through one of several possible means. The third type of conference is that held for the purpose of stimulating interest and enthusiasm. To assure successful conference leadership in a case such as this, it often is necessary to have an unusual method of presentation, perhaps a motion picture, a sound-slide film, or a well-known "outside" speaker.

While variations and combinations of these techniques are always of value, it is believed that they will remain the basic methods to be used in the supervisory-conference program.

4. Organization of Supervisory Training

Since the supervisory-conference method is the one with which most educational institutions are chiefly concerned in their contacts with business and industry, it may be advisable at this point to outline one typical method for organizing the supervisory-training program for the use of such conferences. In establishing such a program in an organization where there previously has been no program, the first step is usually to develop and locate responsibility for the training within the organization. This can best be done by establishing a training advisory council within each plant or organization, consisting of the leading operating supervisors. This committee, or council, should be responsible for preparing and sponsoring the program. This location of responsibility in the operating personnel makes training an integral part of operations, and not an "extra" or "special" program sponsored only by staff departments or individuals. The director of training or one of the members of the committee should be designated for individual responsibility in connection with administering the program. If the company or plant employs a large number of supervisors, the management should be urged to appoint a full-time director of training. If not, this definite responsibility should be assigned to a line official, together with instructions as to the best methods of co-ordinating the training efforts. This individual should be given aid and instruction in developing an outline of a proposed program, this program to be approved and amended by the training council. The subjects discussed by the works management should be carried down through each level of the supervision, supplemented perhaps with additional subjects suited particularly to the different levels of supervision.

Conferences at all levels of the organization should be held on company time because the topics discussed deal directly with plant problems and company policies. The conferences then quickly become a normal and essential part of the regular operating procedure. They become a natural vehicle for the discussion of subjects specific to the interests of any individual department and, if properly organized, provide a more tangible means than usually is available for disseminating management views to the lower levels of supervision and for returning the views of the lower supervision to top management. This, in effect, is "management by consultation" which makes, among other things, for good industrial relations and is in itself a valuable educational technique.

5. Advantages of the Conference Method

Experiences in the past few years have demonstrated with reasonable assurance that the conference method is the most desirable for use in supervisory training, providing, of course, that other methods are injected to keep alive the interest of the group. Some of the objectives which may be expected to be realized through a supervisory conference program, properly administered, are as follows:

(*a*) The frequent group use of systematic analysis in an attempt to gather all the facts that have a bearing on a given problem serves to develop in each individual supervisor a skill at analyzing facts objectively rather than personally.

(*b*) The association of new facts with familiar experiences makes it possible for a supervisor in conference to absorb with more readiness ideas which may seem radical when presented through other means.

(*c*) Active participation of the supervisors in the discussions leads to more permanent retention than is found in other types of training.

(*d*) Ideas developed by the supervisors themselves, through constructive reasoning and pooling of information, are more likely to be accepted since they are the products of the supervisors' own thinking.

(*e*) Through the conference method, the supervisors obtain the common understanding of one another's problems, which is so necessary for cooperation. This is a major aid to improve morale and operating results. It is a common experience that, during a conference discussion, a suggestion will be made which management can put to work promptly.

(*f*) When a group of first-line supervisors arrives at a conclusion in conference, it usually is a sound conclusion since it represents a wealth of practical experience and first-hand knowledge of the supervisory problem. The ideas, with few exceptions, can be used by management advantageously.

(*g*) The supervisors of the group are in constant contact with the workers, and, in their conferences, points which affect the workers are frequently given consideration. In the reporting of conference results the conclusions drawn by these first-line supervisors regarding the workers are almost certain to be taken seriously by management, whereas any individual foreman's opinion might easily be overlooked. The supervisory conferences thereby become an important item in employee-employer relationships.

(*h*) One of the most important desires on the part of management is to develop "team work." The holding of regularly scheduled conferences furnishes the best sort of opportunity for stressing the importance of team work. The very nature of the conferences themselves is conducive

to this. The result of a group action on any problem is likely to be more effective than that of disjointed or unrelated individual action. Matters requiring concentrated attention of the entire organization can be placed before the group meetings of the first-line supervisors. In this manner, every supervisor in the organization can be keyed up for the promotion of the important objectives of the company.

i) The psychological effect of knowing that everyone in the organization is thinking about a certain problem at the same time has a remarkable effect upon the performance of any supervisory organization. Not only does the discussion in the conferences help to stimulate interest but it also stimulates further discussion which may occur outside of the conference room, behind the blast furnace, behind the mill motor, or in the offices.

IV. Apprentice Training

From medieval times to recent years apprenticeship has been the omplete and adequate answer to practically all vocational-training roblems. However, with the increasing use of complex machinery and he increasing specialization of individual effort, the application of this ype of training has been decreasingly effective until now apprentice-hip is a relatively insignificant industrial-training method in compari-on with the more widely used "learner," "helper" and other on-the-job nethods. The lag between changing training needs and changing train-ng methods has resulted in the frequent abuse and misuse of the pprenticeship system. Constant criticism and reappraisal by man-gement, labor, and federal agencies has led to the conclusion that the lefects are due to misapplication and are not due to inherent fallacies n the method.

1. Scope of Apprentice Training

In order to orient apprenticeship training in relation to other meth-ds and to locate the areas or fields in which it functions effectively, it s necessary from time to time to review the purposes of apprenticeship raining and to determine the type of situations in which it can most ffectively be applied. The primary purpose of any apprentice-training rogram is to provide for industry persons who have a complete and road training in a trade, craft, or business. A proper apprenticeship nvolves the mastery of the manipulative skills necessary for actual roduction or service, and it also implies the acquisition of certain re-ated technical and general information which enables the worker to lan as well as perform the work intelligently and efficiently. The most ommon error in appraising apprenticeship is to assume that any task

requiring manipulating skills is a suitable task for apprenticeship training. It is essential to remember that apprenticeship does not apply unless many skills are involved and unless a broad range of information is involved. Apprenticeship is an extensive rather than an intensive form of training.

Apprentice education for skilled work is not limited to the traditional hand trades. New industries, trades, and businesses for which no apprenticeship training has been available in the past are now benefiting from this type of program, and, through co-operation with the local public schools and various governmental agencies, workers are being educated and trained in this type of skill grouping. Occupations or trades for which apprentice training is requested must be sufficiently complex in skill and knowledge to justify prolonged on-the-job training and also must be complex enough to require detailed instruction in related technical knowledge.

2. The Background of Modern Apprenticeship

During the period from 1920 to 1940 no important achievements were made in apprentice-training methods or results. This lack of progress was due to many factors, some of which could have been avoided. They consisted chiefly of the following:

(*a*) Management could not justify, financially, a long-range training program of four years' duration.

(*b*) The specialization of machine operation did not lend itself to a program as extensive as apprenticeship.

(*c*) The quality of apprentice training, particularly related instruction, was not meritorious.

(*d*) Organized labor attempted to restrict, either directly or indirectly, the number of apprentices employed in order to protect the already trained workers.

(*e*) The co-ordination now necessary between labor, management, and the schools did not exist.

Because of these and other factors, apprenticeship during this period, while maintained by some companies on a very high and admirable level, became in other situations a disreputable training medium. All too often the apprenticeship was used by unscrupulous employers as a means for securing cheap labor. All too often the four-year course given to an apprentice left him unskilled and uneducated in his trade.

3. The Federal Committee on Apprenticeship

Into this confused situation the government entered in 1937 with the authorizations permitting the formation of the Federal Committee on Apprenticeship, a committee on which labor and industry have equal representation. As a unit of the Department of Labor, this committee encouraged the passage of standard state legislation, acted as a clearinghouse for information on ways and means of conducting apprenticeship, and attempted through every available means to promote the intensification and extension of apprentice training. This federal committee has developed standards which it considers essential for successful apprenticeship programs. No apprenticeship program is approved by this committee unless it meets all of those standards. This sometimes appears to prejudice the planned programs of many large industrial organizations who carry on excellent programs without such blessings and who may exceed many of the minimum requirement standards of the federal committee. In 1941 there were approximately nine hundred apprenticeship programs recognized and approved by the federal committee. Of these, about two hundred cover particular establishments or companies. Because their recommended program involved committee collaboration between management and labor and a form of indenture for the apprentice, their accomplishments are somewhat restricted. Furthermore, in their zeal to sell apprentice training, some of the agents representing this federal committee have done irreparable damage in promoting their program when "learner" or some other form of training was really needed. On the whole, however, this committee has served to bring order and responsibility into the apprentice picture.

4. Determining Local Needs

The effectiveness of apprentice education depends upon the type of training that is needed, the quality of the organization which is to supervise the training, and, most important, upon the degree of co-operation which is found among employers, employees, and school authorities when such co-operation is necessary. The need for apprenticeship education must be appraised in terms of the ability of local occupations to absorb well-prepared, all-around skilled workers, or, in case of a single large establishment, must be appraised in terms of the need of that organization for such persons at a future date. In many cases smaller local companies cannot each support an apprentice program which is unified and complete. In such cases it is necessary to have a

community program in which each company provides experience for i apprentices while joint provision is made for the related technical infc mation and training. A joint analysis of the local situation will usual reveal an opportunity for co-operative effort in helping young peop become better workers and better citizens. In every situation, the d termination of a specific need in apprentice education is a local r sponsibility derived after study and investigation on the part of t employer, the employees, school authorities, and other interested age cies working together.

5. Apprenticeship Standards

A majority of the companies or communities organizing apprentic ship programs at this time are following the standards suggested by t Federal Committee on Apprenticeship Education. These standar essentially, provide for:

(*a*) The trade to be apprenticed must be one which requires four thousa or more hours to learn.

(*b*) There must be an agreed schedule of work processes to be learned on t job.

(*c*) Provision should be made for adequate payment to the apprentic If the apprenticeship program is approved, the scale of wages m average 50 per cent of the journeyman's rate during the period of appr ticeship. Programs which do not have the approval of the apprenticesh committee must pay at least the prevailing minimum wage rates.

(*d*) Provision must be made for at least 144 hours per year of classes off ing related instruction.

(*e*) Provision must be made for reasonably continuous employment.

(*f*) There shall be a written agreement between the apprentice and the e ployer including the foregoing standards if federal approval is desir

(*g*) The program must have the approval of the state apprenticeship coun if federal approval is desired.

(*h*) There must be a joint committee of employers and employees to p mote the established standards and to operate the apprenticeship syst if federal approval is desired.

Those companies or communities which object to items (*c*), (*e*), (or (*h*) often observe the other standards without taking advantage the possibility of low wages and without restricting the freedom of t employer to establish standards and to operate the system indepen ently.

6. Instructional Materials

Traditional plans of apprenticeship do not always, for many reasons, meet the needs of modern industry. The programs often are inadequate because the teacher of the related instruction lacks a thorough and practical knowledge of the subjects to be taught or is not in sympathy with the policy of the apprenticeship program. Often the shop experience is limited to a few operations and is not as varied or as well planned and supervised as it should be. Again, there is often a lack of co-ordination between the related technical instruction and the practical shop operations. This difficulty is recognized by many companies when they appoint the same individual to be the shop teacher and the related-subject teacher. In a few instances, a program has failed because the selection procedures for new apprentices have not been effective and persons incapable of benefiting by the broad general training have been inducted into the program. One of the significant contributions to the apprentice training in recent years has been the development of improved instructional material not only for on-the-job instruction but also for classroom instruction. There are now available numerous texts covering practically all phases of related technical material and these should be carefully analyzed before a program of technical development is inaugurated by a given community or company. Only the larger companies can financially afford to develop related text material, and, consequently, efforts of any given company are usually confined to the preparation of specific information or operation sheets appropriate to their particular jobs.

The International Correspondence School has operated an apprentice-training division for many years and has made numerous outstanding contributions in the field of related instruction. This company maintains a staff of training experts who are available for consultation to both employers and employees on problems relating to apprentice training. The American Technical Society, National Metal Trades Association, Henry Ford Trade Schools, and numerous other organizations have also developed for distribution valuable apprentice-training material. Equally useful are the many motion pictures and sound-slide films now available as supplementary material. Many of these films have been provided by private companies and can be obtained at no cost. The United States Office of Education has released a series of motion pictures on phases of machine-shop operation. Many private film companies have produced kits of sound-slide films for use both as

task instruction and related theory material. Every apprentice instructor should be aware of these available materials and should choose carefully from them before going to excessive investments in the development of his own materials.

7. Allocation of Apprentices

An apprenticeship program as long and as well rounded as that described above does not compare with the traditional apprenticeship of recent years. The product of such a course usually is too valuable to be relegated to routine task performance. One of the best analyses of the situation has been made by Dr. C. A. Prosser, Director of Dunwoody Institute, in addressing the annual convention of the American Vocational Association in Chicago on December 5, 1935.

> Those familiar with the problem of apprentice preparation now agree that for many reasons, which need not be stated here, the old plan of apprenticeship cannot be revived to serve successfully as an efficient device for restoring skill and knowledge among mechanics. In our day, an understanding of an ability to apply mechanical laws, principles, operations and ideas, the figuring required to guide this understanding in the language of the trade as used in blueprint specifications, free-hand sketching, and simple line drawings to scale, all these are of even greater importance than the manual dexterity and manipulative skill which the shop can, if it will, inculcate through controlled practice and careful supervision.

The trends indicated by Dr. Prosser are substantiated by the experience and practice of industry where the apprentice group is regarded as a source of planning and directing personnel rather than a source of task-performing personnel. The traditional role of apprenticeship as the chief source of skilled workers is being altered to accommodate industry's need for a more select group of trained men capable of leading others who possess more limited skills.

V. Job Training

The training methods which we have considered up to this point have a rather restricted application. Apprentices, supervisors, and employees interested in extension training do not make up more than 30 per cent of the employed persons in industry. However, it is evident that training for the other 70 per cent has not entirely been neglected. Training is and always has been a continuous activity on the part of any producing organization, for the occasions which require training

occur every day even in old established companies. Whenever a new man is put on a job, whenever the company brings out a new product, whenever a man is promoted from one type of work to another, and whenever a man is off sick and must be replaced by another, all of these common occasions call for training on a mass scale.

1. Responsibility for Job Training

Job training, traditionally and properly, is the responsibility of the immediate supervisor over the worker who requires the training. In the past, this responsibility always has been accepted, although more often than not the supervisor has regarded it as a relatively insignificant part of his job. Under the name of "breaking in" a new man or "showing him the ropes," every supervisor sees that each employee is able to perform his job duties at least to a minimal degree of satisfaction, but there has been little organized effort to speed up the "breaking in" period, to insure maximum job skill, and systematically to upgrade the older employees. With human skills becoming more important in industry and with the mechanical features of production well under control, the development and preparation of personnel is becoming a relatively large factor in the supervisory task.

2. The Organization of Job Training

In the smaller companies systematic job-training programs have made no great changes in the organization and responsibility of the training task. The responsibility belongs to the foreman and to the operating organization above and below him since job training is an integral part of the man-machine-material situation with which the operating organization is concerned.

With the increasing need for job skills in industry following the expansion for defense production, many companies have found it desirable to intensify their job-training effort. The question as to how a program for streamlining and controlling job training should be organized is one which can only be answered after considering the nature of the company. In large plants there usually is a staff officer who is responsible for assisting and advising in connection with employee training. Where such an individual is available, the development of mechanics and procedures should be left in his hands, providing operating management has made clear their purposes and objectives. In the absence of such staff assistance, the operating officers must supervise the work of job training.

Individuals selected for "job trainer" positions, whether supervisory or nonsupervisory, should be prepared for their task under the direction of the staff-training adviser. All persons who are to function as job trainers should be made familiar with company policies and objectives, should be informed as to the best method of determining training needs, should be assisted in preparing detailed analyses of the particular skill and knowledge with which they are concerned, should be instructed in the best accepted methods of training, and, finally, should be made acquainted with methods for critically evaluating the results of their training effort. Large companies have in many cases developed their own training courses for job trainers. Other companies make use of funds and facilities of their state department of vocational education in securing expert preparation of their job trainers. Others use the twenty-hour training course of the War Production Board organization, described below, as a useful supplement or alternative to their individual effort.

3. Job-Training Methods

War abroad and defense at home have made it necessary for industry and business to streamline their training program to meet the emergency conditions of the day. Some have been fearful that the organization of an intensive job-training program would result in a sacrifice of training standards. However, the experiences of the past few months have clearly demonstrated that the theory "if it doesn't take a long time to train, the training program is inadequate" is fallacious. The current intensive need for man power has brought to the fore the problem of training men quickly and thoroughly, and the problem has been solved not by introducing an entire new program but by improving and intensifying the job-training program which has been in effect since time immemorial.

During the first World War considerable thought was given to proper teaching sequence and to "breaking up" the over-all job into teaching units so that the desired results could be obtained in a shorter time. Based on methods developed at that time, many companies are now engaged in a broad program for analyzing each job, breaking it up into suitable teaching units and basing their individual instruction upon this improved simplification of the instruction procedure.

Effective on-the-job training must be based on a more or less objective determination of the training problem. Although practically all companies maintain performance and other records which give an index

of the training problem, it is astonishing how little use is made of these records in determining the training needs. The first step in the instruction of foremen or designated job trainers is to encourage the study of available performance records. These records, in connection with the over-all company plans, permit the foremen or job trainers to locate the areas within which training is particularly necessary.

Once the general area for training has been determined, the next step is usually the preparation of a detailed analysis of the particular job or the particular operation on which training is to be done. Such an analysis is more effective if it overlooks the general problem of improving a given person's performance and concentrates rather on the specific, small portions of the job which offer immediate possibilities of improvement through well-planned task instruction. In the case of employees new to the task, such a detailed analysis will develop the consecutive steps which are necessary to keep this man learning at his maximum rate while producing at his maximum rate. The importance of this detailed analysis cannot be overestimated. While every supervisor assumes that he knows what to teach, yet, in actual practice, experience has demonstrated the importance of classifying the elements of the job to be taught.

The actual teaching following the determination of the training needs and the analysis of the particular training task is largely a matter of individual judgment, even though certain procedures have been found to be uniformly effective. Under the stimulus of war training programs, a large quantity of material suitable for teaching the actual training methods to supervisors and job trainers have been developed. These include sound-slide films, motion pictures, and, particularly, the manuals of job instructions prepared for public use or for private use by large organizations. The essentials of the training procedure for most instructors and most training jobs include:

> Showing the man how to do the task, explaining the key points, letting him watch you do it again, letting him do the simple parts of the job, helping him do the whole job, and observing while the learner does the whole job.

Probably the chief difference in job-training programs of present times and those of previous years has been the increased emphasis on progressive or promotional training. This type of training differs from the usual rotational program in that it is possible to assign the new employee to a position of sufficient simplicity for him to proceed intelligently toward more difficult jobs without loss of productivity. Jobs

or positions are set up in the ultimate sequential form not for the purpose of facilitating transfer of skill but rather to enable the trainee to apply at each successive position knowledge or skills previously learned on a job during which time he was engaged in actual production. Some organizations have extended this principle over a long period of time and, for example, have been able to teach welding to new workers with a loss of only a few weeks of production during a period of three years. Other organizations are tying in their on-the-job instruction with apprenticeship by bringing the trainees to production performance within a few days on each machine and, by guided experience on other machines or equipment, preparing them for all-around, thorough training in a trade. Intensive on-the-job training methods permit a man to become productively competent within a few days of employment even on tasks which were formerly considered to be so difficult as to require years of experience. For this reason the adjustment of on-the-job training to promotional sequences usually is not planned with the idea of keeping the man on a limited productive effort so much as it is planned with the idea of maintaining the idea and spirit of promotion as a matter of individual development.

4. Training Within Industry

The "Training Within Industry" division of the War Production Board has furnished signal service in promoting the intensification and improvement of on-the-job training within industry. Although their activities are not limited to this type of training, the situation in which they functon has made it by far their most important activity. This organization is prepared to render specific advisory assistance to defense industries in inaugurating programs to be carried on within the plant. The service is not compulsory, and there is no authority for this organization to go into a plant on any basis other than at the management's request. Four general types of assistance are given by T.W.I. in adapting programs to fit the various conditions in each specific plant: help in the analysis of the training needs, aid in setting up a program within the plant, drawing from the experience of other employers in developing training methods and materials, and preparing the organization to carry out the job-training program.

The headquarters staff of the T.W.I. is guided by an advisory committee composed of six representatives of labor and six of management. Outstanding persons actively engaged in successful training in industry

serve as consultants on the headquarters panel. Field service is effectively rendered by representatives working continuously in local areas. This field service is organized on the basis of twenty-two districts throughout the nation according to the location of important industrial centers. Each district has one representative assisted by four advisers, two from labor and two from management, and also by a panel of ten or more personnel and training consultants, borrowed on a part-time basis from industry because of their knowledge and experience. While many larger organizations have found it more economical and convenient to set up their own advisory staffs on a basis comparable to that of the T.W.I. organization, smaller companies or companies unacquainted with training procedures would do well to use the services made available by the War Production Board.

5. The Significance of Job Training

Organized job training is probably the most significant development in the history of vocational education since it represents the ultimate in applied training and represents the possibility of carrying continuous training to every employed person. From a productive point of view the results often are truly astounding. It is not uncommon that the training time of a job is reduced from a matter of months to a matter of days. Job training is known to have doubled the output of certain critical defense materials where the bottleneck was one of deficiencies among supposedly skilled men. Waste of materials often is reduced by job training to "impossible" levels.

From the social point of view the implications are equally impressive. When the traditionally "protected" trades and occupations become simplified into useful segments which can be adequately taught in a brief training period, the possibilities for a worker to learn new skills are greatly expanded and the probability of his slipping into dead-end skills will be minimized. Perhaps industry will soon find training costs less than employment costs and will adopt the practice of retraining present employees rather than looking elsewhere when new skills are needed.

VI. Conclusions

These brief comments on the major types of vocational training in industry by no means cover the entire field. Among the training methods of lesser significance are the vestibule school and the vocational

pre-employment school. Vestibule facilities have not met with favor as a training medium during the past year because of the need for using every available piece of productive equipment in actual production. Some organizations are still maintaining their vestibule facilities but even these are being used for progressive or promotional training, and the training is built around "production of material" instead of the "similar to production" concept. Another reason for the decrease in use of vestibule facilities is the fact that such training methods often require new equipment which is not currently available. In other cases the flow of new trainees is not constant enough to merit the establishment of such facilities. Even at best, only a small fraction of the occupations within any given industry employ enough individuals on like operations to engage in this activity. However, certain occupations are particularly adapted to vestibule training, and, for these, this particular form of on-the-job instruction is of exceeding value.

Vocational schools have co-operated in the organization of classes on a twenty-four–hour basis for the training of employees in some communities, but most of the efforts in this connection have been directed toward pre-employment training. Such pre-employment training is of great value when there are large numbers of inexperienced persons to be brought into industry within a limited time. There are certain portions of almost any occupation which can best be taught on a mass basis with a classroom technique. Where such conditions prevail, it would be wasteful to use individual on-the-job instruction for the preliminary training. However, it is recognized that pre-employment classes merely supplement the on-the-job instruction which each new employee or promoted employee must receive. In a few instances this limitation does not hold, as, for example, where shop facilities may be used during "down time" for the training of potential employees under the supervision of the local public schools.

A tremendous recent increase in interest and practice of vocational education within industry indicates a significant development in the attitude of management, labor, and public officials toward vocational education. The increase of training sponsored by industrial and business organizations has not decreased the amount of profitable training done by public vocational schools. Instead, the trend appears to be toward a logical and economical co-operation between all the individuals, organizations, and facilities in the field. The labor organizations, traditionally antitraining, often have helped materially in promoting

training programs and often have revised their practices in regard to such programs. In some cases they have developed such programs on their own initiative. Management, in turn, is reappraising the value of the competent employee and is accepting the concept that "training is simply good management." This recognition of the need for increased application of good training technique on the part of all of the interested parties suggests that progress in the next few years will be extremely rapid. The continued improvement of text materials and applicability of instruction to the job at hand will result in even greater emphasis of the importance of training within industry. Industrial education through a revision of its methods and objectives is reaching maturity.

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SECTION V

VOCATIONAL PROGRAMS IN DIFFERENT EDUCATIONAL INSTITUTIONS

CHAPTER XXII

VOCATIONAL EDUCATION THROUGH THE HIGH-SCHOOL LEVEL

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I. INTRODUCTION

The number of secondary schools which have influenced our industrial progress during the last quarter of a century is well over three thousand, and they are scattered throughout the land from coast to coast and from the Canadian border to the Gulf of Mexico. No adequate description of these thousands of successful schools can be presented in a brief chapter. To describe a few in any case is to leave out the large number of other schools which are equally as successful and important as the limited number that are described in this chapter.

Authors of other chapters of this Yearbook have stated correctly that the primary function of the elementary and secondary schools is to give every student an adequate fundamental general education which will fit him to take his place as a citizen in our democracy. They have also indicated that on the secondary level at various points, according to the needs of each individual student concerned, specialization must begin for the obvious purpose of preparing him vocationally to become self-supporting and to enable him to make his contribution to the economic welfare of our society. It is clear that in the twenty-six years that have passed since the federal government voted special support for vocational schools and vocational departments in secondary schools great progress has been made in schools of all sizes, from the very small to the very large. Successful vocational programs are to be found in all these types.

In this chapter will be presented an illustration of a small community high school in Iowa, typical of many others to be found elsewhere in the country, which has a variety of vocational offerings but which has been particularly successful in developing a program of vo-

cational homemaking. A second illustration, typical of many successful county high schools, is that of one in Kentucky with an enrolment of 372 pupils, which has developed a very successful vocational-agriculture program. The remaining illustrations are those of urban secondary schools of the trade-school, the vocational high-school, and the vocational-school types. In presenting descriptions of these three types of urban schools located in New Orleans, Los Angeles, Pittsburgh, New York, Detroit, and Milwaukee, the author is not unmindful of the unusually successful programs of vocational education in many other urban centers. Boston, Buffalo, Chicago, Cincinnati, Cleveland, Denver, El Paso, Kansas City, Newark, Rochester, St. Louis, San Antonio, Seattle and many other cities, all maintain well-known vocational schools, in some cases a number of them. States such as Connecticut, New Jersey, and Massachusetts maintain successful state trade-school systems at different centers within their borders. Dunwoody Institute of Minneapolis is typical of the successful privately endowed vocational school.

II. The Vocational Program of the Small Community High School

1. The High School of Story City, Iowa

Story City, Iowa, maintains an elementary school of 260 pupils and a high school of 180 pupils. Its high school offers, besides the usual academic and avocational opportunities, vocational training in agriculture, homemaking, and industrial work. The vocational homemaking department is outstanding and has been selected by the Iowa State College of Agricultural and Mechanical Arts as one of four student-teaching centers, where seniors preparing to teach homemaking devote six weeks full time to student teaching and the study of methods.

The Story City vocational homemaking department has been maintained since 1929 and has an average enrolment of 60 girls. Three years of work are offered in this department, of which the first is required of all girls. Most of the high-school girls take the first two years. The department maintains close co-operative relationships with other high-school departments and the elementary school. This has enabled it to functionalize its instruction through co-operative projects and has provided opportunity for the work in the home care of the sick, first aid, nutrition, and child development. The department's co-operative relationships extend beyond the boundaries of the school into the community. The people of Story City strongly support projects

undertaken by this department as well as the other vocational departments of the school.

The adult-education program maintained by the high school offers general forums as well as specialized classes in the three vocational fields in which the school offers instruction. These adult programs are mapped out by representative citizens, the vocational faculty, and the superintendent of schools, who serve together on councils which have been successful in arousing great community interest in the school and all its activities.

The emphasis of the first year in homemaking is upon sharing in family life; of the second year, assuming responsibility in the home and the making of personal and social adjustments; and the third year, establishing a home and preparing for homemaking as a vocation.

The homemaking department seeks to attain the general objectives for homemaking instruction by placing emphasis not only upon the usual practical home skills but also upon the recognition and solution of the problems that the members of a family must consider in home living. Further stress is placed upon enriching the family and home life by recognition of the possibilities that exist for creative expression through personal and group effort in the wide range of activities and resources that home living offers.

In terms of specific pupil objectives emphasis centers further around the development of the individual girl in her personal situation and also in her participation in group activities as a leader or follower. Another objective of the department is pointed to assisting the vocational-homemaking student to acquire a satisfying philosophy of life that will enable her to assume her homemaking duties cheerfully, confidently, and successfully.

III. The Vocational Program of a County High School

1. The Vocational-Agriculture Department of Fleming County High School, Flemingsburg, Kentucky

Fleming County High School of Flemingsburg, Kentucky, a school of 372 students, which also maintains evening classes at Hillsboro, Ewing, and Fairview, Kentucky, for twenty-five, twenty-two, and forty-eight students, respectively, and part-time day classes at Ewing and Mt. Carmel for groups of nineteen and fifteen, respectively, offers a four-year program in vocational agriculture. This program empha-

sizes instruction in tobacco, poultry, and beef cattle in the first year; hogs, corn, dairying, and sheep in the second year; soils, small grains, legumes, hays, and pastures in the third year; and farm management, work stock, and orcharding in the fourth year. Farm-shop instruction, individual problems, and supervised practice is offered during each of the four years. The farm-shop work consists of farm metal-work, including forge, grinding, acetylene and electric welding, drilling, and farm machinery repair. The value of the metal-work equipment is $1600. The wood shop, with equipment valued at $900, is provided with an adequate supply and variety of hand tools for fifteen boys to work at one time. Power equipment, consisting of a bench saw, a six-inch jointer, and a thickness planer, are included. The wood shop course is closely related to practical needs on the farm. The school also offers work in auto mechanics and elementary electricity.

The practical offerings are carried on along functional lines. Boys undertake individual projects on the home farms and are taught to solve their own problems. The teachers of the school are employed on a twelve-months' basis and an important part of their responsibility is to supervise the practice work of their students. The enterprise projects of the students for the school year ending June 1, 1941, netted pupil labor earnings totalling $13,242 and represented 21,351 hours of student labor. The teachers in their summer activities held fifteen meetings, spent eighty-two hours in training a stock-judging team, prepared fourteen articles published in local papers, traveled 9,200 miles, made 266 supervisory visits, and devoted 870 hours to their supervising practice. The annual report for 1941 shows that an exceedingly large number of former students are actually engaged in agricultural activities, thus attesting to the school's success in educating its students to remain on the farms as successful farmers.

The Fleming County High School has organized a strong chapter in the Future Farmers of America and through this chapter has underwritten a program that stresses the activities which characterize the purposes of this organization, such as co-operation, community service, leadership, thrift, and recreation. Each member is encouraged to carry out at least five approved farm practices. A contest is sponsored to select individuals carrying out the most outstanding farm-practice programs. Suitable prizes are awarded the winners. Members are also encouraged to improve strains of crops and live stock in all projects which they undertake.

IV. Trade Schools

Some secondary schools are definitely organized around a number of trades and are known as trade schools. The Isaac Delgado Central Trades School is an example of a well-organized smaller trade school, and Frank Wiggins Trade School an example of a large successful trade school. The Pittsburgh system of trade schools illustrates a development within a single city of both small and large trade schools organized on a non-coeducational basis.

1. The Isaac Delgado Central Trades School, New Orleans, Louisiana

Through the generosity of Isaac Delgado, a prominent business man of New Orleans, the Isaac Delgado Trades School for boys and men was established in August, 1921. The school building is located on 57.3 acres of ground purchased as an extension to New Orleans City Park. Adequate provision in fine surroundings was thus made for the future expansion of the school plant. The City of New Orleans pays the operating costs of the school, with assistance from the State of Louisiana and the federal government. The school is operated by a special board of managers created by local ordinance when the City of New Orleans accepted Mr. Delgado's gift.

In providing the money for the school building and equipment, Mr. Delgado provided that the school should be tuition-free to any white grammar-school graduate residing anywhere in the State of Louisiana. The school is also open to high-school graduates. Adults who seek extension training on a part-time basis are also admitted. No one is admitted under the age of sixteen.

The school offers instruction in the following trades in its day-school classes: aviation mechanics, electrical, plumbing, machinist, commercial cooking and stewardship, printing, carpentry, bricklaying, showcard art, cabinetmaking, acetylene welding, electric welding, and painting and decorating. The practical instruction is co-ordinated with related training in mathematics, trade English, applied science, mechanical drafting, and building-trades drafting. Work in Diesel engines is offered in the evening school. Correspondence instruction in drafting is offered to C.C.C. enrollees.

The school is unique in that it operates, unlike most schools, on an eleven-months basis, from September through July. The year is divided into three terms designated as fall, spring, and summer. Instruction is offered from 8:45 A.M. to 3:00 P.M. on five school days of each

week. The night school, on the other hand, operates for a period of six months, from October through March, for two-hour sessions on designated nights. While the evening instruction centers around trade work, elementary instruction is also offered in reading, writing, and arithmetic to adults who are preparing to take trade courses in the night school, whenever in the judgment of the school that is necessary. The day courses offered to graduates of the grammar school take three years to complete. For high-school graduates the time is somewhat less.

The school as originally planned and built was a three-story structure. Since then annexes have been built and further expansion is contemplated. The cost of the grounds, building, and equipment was $1,250,000. The school operates on an annual budget of about $210,000, of which $70,000 is provided by the City of New Orleans, $50,000 by Louisiana by constitutional provision, and an additional $40,000 from the state by legislative act. The average Smith-Hughes income is $15,000, and income from miscellaneous sources amounts to $35,000.

The faculty of this institution consists of a very stable group of more than thirty competent tradesmen whose average trade experience was over twelve years when they entered service as teachers. These men, through in-service training first offered by the director, have continued their professional training at Tulane, Louisiana State, and Loyola Universities and carry a student load, with some assistance, of nine hundred day- and twelve hundred night-school students.

2. The Frank Wiggins Trade School, Los Angeles, California

The Frank Wiggins Trade School was founded in May 1925, and was named in honor of Frank Wiggins, a pioneer industrial leader of Los Angeles who did much to promote the industrial growth of the city. It is another unique vocational institution that has done distinctively successful work. As its name implies, it is organized on a trade-school basis along a strictly occupational line.

The administrative organization of the school centers in a day-school principal, a vice-principal, a registrar, and ten co-ordinators who head up the ten trade departments in which instruction is offered in fifty-five distinct trades. The evening school is under the general direction of another principal. The school's day enrolment as of December, 1941, was 1,998 men and 1,132 women, or a total of 3,130. The evening-school enrolment consisted of 2,683 men and 764 women, or a

total of 3,447 students. The day-school faculty totals 87 teachers and the evening-school faculty 81 teachers.

The instructional offerings of the day trade-school are mainly trade preparatory, but include some work of an extension character. The trade-preparatory courses are organized on an all-day and a part-time basis. All-day students report for six-hour periods. Those who come on a part-time basis report for four hours. Adults attending the evening school report on one or two nights a week for periods running from two to four hours, depending on the course of instruction they take. At the present time, like most of the schools described in this chapter, Frank Wiggins Trade School is also maintaining national emergency-defense courses in order to meet present demands that have come out of the present international emergency.

The main building of the Frank Wiggins Trade School, a ten-story structure located at 1646 South Olive Street, is no longer adequate to meet the demands made upon this institution. Therefore, various activities have been placed in buildings which have become annexes, most of which are located within a few blocks of the main building. These annexes are in twelve different locations and take care of the work in aircraft trades, art and drafting trades, painting and decorating trades, body and fender work, commercial baking, furniture upholstering, laundry work, welding, household service, and landscape gardening. The latter two activities are located on a seven-acre tract which the board of education purchased for a future junior high school development. The acreage available provides the Frank Wiggins Trade School with an adequate opportunity to develop the work in landscape gardening, which has a significant place in a city as large as Los Angeles.

The Frank Wiggins Trade School is also an important factor in the promotion of a program of apprenticeship which is being developed in Los Angeles under the Shelley-Maloney Apprentice Labor Standards Act. At the present time 658 apprentices are enrolled. They are required to attend school four hours a week, day or evening, for a stated period of time until they are recognized as journeymen by the trade. The school has also experimented with several summer sessions.

The fifty-five trades taught are grouped in the following general divisions: aircraft, art and drafting, auto and metal, building, building operation and maintenance, clothing, cosmetology, electrical and communications, food, and printing.

Unique in the organization of the school's services is its work in the development of curriculum materials and its well-organized guidance service to its student body. The counseling and advising service of the institution is made a responsibility of the entire faculty and is considered equally important with the specific trade and related instruction which the school offers to students.

3. The Pittsburgh Trade Schools, Pittsburgh, Pennsylvania

Pittsburgh has maintained a vocational-education program in its public schools since 1912. In that year it organized two elementary industrial schools for boys. The annual report of the Pittsburgh school system for that year stated that the schools were organized for youth over fourteen years of age who had lost step with the regular grade school, who were motor-minded in personal interests and tendencies, and who were seeking an early opportunity to enter the industrial life of the community. Emphasis was also placed upon training youth "whose ambition is to do things and who want the most direct training for effective and efficient service."

From this beginning, industrial training for boys was introduced in the regular elementary and high schools. It is clear that the educational leaders of Pittsburgh recognized early the need of pointing up practical training so as to serve vocational objectives. These schools continued to grow in importance until the continuation schools, organized in 1916, caused a lull.

Unlike the experience of other large, industrial, American communities, the continuation schools of Pittsburgh, while they flourished for a period, never enrolled continuation-school students in as large numbers as were enrolled in cities of comparable size. Pittsburgh school authorities stated that this was accounted for by the fact that Pittsburgh's continuation schools were unable, in the meager amount of time that was allowed for school attendance of continuation students, to provide the specialized training Pittsburgh's industries required. Pittsburgh subsequently, while continuing general continuation-school work for the limited numbers that attended, gave renewed support to the junior high school and trade-school movements with the result that the trade-school idea gained momentum.

Since those days Pittsburgh has supported trade training at various centers in schools which for a time were called trade schools but which are now generally known as vocational high schools. Today

there are eight vocational high schools in Pittsburgh, all of which, with one exception, are separated from senior academic high schools. Of these, the best known is the C. B. Connelly Vocational High School, located not far from the downtown section of Pittsburgh. The school building has a five-story section containing classrooms and laboratories devoted to academic and related instruction. Trade instruction is offered in some thirty shops in a building of the sawtooth type built adjacent to the main structure. Practical instruction is offered in seventeen significant trades for which there is an occupational outlet in the city of Pittsburgh. Besides offering vocational courses for youth of high-school age, the school also shares in the national defense-training program of metropolitan Pittsburgh. National defense training is offered on pre-employment and supplementary levels and is also available to citizens of this metropolitan area at the Allegheny, South, and Washington Vocational High Schools.

Trade training in the Pittsburgh vocational schools is not limited to boys. Several schools are devoted to the trade training of girls. Training for girls includes cooking, dressmaking, power-machine operation, sewing, beauty culture, cafeteria service, child care, distributive occupations, junior nursing, millinery, office-machine practice, and tea-room service.

While Pittsburgh over the years has developed its practical program on a specialized basis in various centers, improved its building facilities, and augmented its equipment, it has also underwritten significant developments in the field of practical curriculum construction. The teaching staff and administrative heads, in co-operation with the vocational-education department of the University of Pittsburgh, have made remarkable progress in improving the character and quality of instruction offered to boys and girls in its vocational high schools. Simultaneously there has been developed a close program of co-operation with the business communities and the industries of Pittsburgh which has resulted in a gradual improvement in the training of apprentices and a strengthening of the community interest in apprenticeship.

V. Vocational High Schools

The following descriptions of two large vocational high schools exemplify developments along coeducational lines but dissimilar vocational patterns.

1. The Metropolitan Vocational High School, New York City

The Metropolitan Vocational High School of New York City is neither the newest nor the largest of the New York City vocational high schools. It is, however, one of the city's very effective schools and is a fine example of successful administrative adaptation of existing school plants and facilities to the changing needs of an old neighborhood in a large city—in this case the nation's metropolis.

Metropolitan Vocational High School exemplifies characteristic American initiative in educational administration in overcoming unpromising conditions to meet effectively changing community needs. Originally organized as the East Side Continuation School with an enrolment of fourteen thousand continuation students, Metropolitan has evolved into a vocational high school of three thousand full-time vocational and approximately twenty-two hundred part-time continuation students, of whom about five-sixths are boys and one-sixth girls. It is housed in six buildings with supplementary facilities provided by a nearby dock and a boat. The school is located in the lower east side of New York not far from the city hall, with Brooklyn bridge on its water front, and within the focus of all municipal transit lines. Its location, therefore, is strategic.

Access to the main transportation lines extends Metropolitan's jurisdiction to all students of the city who are interested in its vocational specialties, of which its offerings in the maritime occupations are unique. These include deck, engine, radio, steward, and boat-building activities. Proximity to New York's great waterfront accounts for this most logical vocational development. Four other specialties—commercial photography, barbering and beauty culture, vocational music, and vocational dramatics—are important offerings for vocational fields in New York City for which instruction could be adequately provided in and adapted to the available school plant this school occupies. Noteworthy, too, is the personnel of the representative advisory commission which assist the school in the organization of courses of study, the training of students, and placement of graduates. Thus, by placing emphasis upon important but hitherto neglected occupations, Metropolitan has created an important place for itself in the New York City program of vocational education and met actual vocational needs of New York City.

Although the school's expressed purpose is vocational competency in its specialized fields, it also offers solid academic instruction to young

people and adults who wish to combine scholastic attainments with vocational skills. As a chartered school it prepares such students for the regents' examinations of New York State.

Significant of the school's services is its emphasis upon the worth of each individual student. It assigns a faculty or staff member as a friendly counselor to assist each student for the period he attends Metropolitan. A well-conceived and effectively organized induction and guidance program personalizes the school's services to individual needs. The objective is early and prompt appraisal of the capacities, limitations, and interests of incoming students, their proper adjustment to a suitable educational program, and their satisfactory job placement on a substantial economic basis in the community. An experienced and adequately prepared faculty under able leadership has enabled Metropolitan to serve well the students who come to it for guidance, instruction, and placement. Metropolitan is a fine example of an institution that has capitalized the limitations that are inherent in an old neighborhood with a declining population and in buildings which were erected for school purposes other than those for which they are now used. Out of these its leadership and personnel have rebuilt and are continuing to rebuild a school service that truly fits not only the immediate community in lower New York but the metropolis as a whole.

2. The Cass Technical High School, Detroit, Michigan

Simultaneously with the development of vocational education in other American industrial communities, Detroit has developed an excellent school system which has taken into full account the needs of a large secondary-school population which was bound to find its occupational outlet in Detroit's industries. The Cass Technical High School, one of the outstanding institutions of its kind in America, figures prominently in the Detroit program.

Cass High School was established in 1907 with the purpose of developing a technical high school that would be a credit to Detroit and its growing industries. Its present plant was completed late in 1922 and consists of a large seven-story building and a three-story building connected by an overhead bridge.

The educational offerings of Cass are built around a core curriculum considered essential for technical high-school students irrespective of what their vocational interests might be. It consists of mathematics,

chemistry, physics, the biological sciences, mechanical drawing, English, the social sciences, and physical training.

The school has set high standards and requires that students who seek to be admitted must be able to pass intelligence and mechanical aptitude tests with an average rating of at least "*C*." The work is definitely organized toward graduation in six-semester sequences. Graduation is conditioned upon successful work in both the core and vocational curriculums. The school offers work to both boys and girls. Its graduates are fitted for entrance to schools of engineering or applied science, colleges of art and music, and schools of nursing. Those who seek industrial connections upon graduation are usually ready to take advanced ratings as apprentices in those occupations in which journeymen are prepared through apprenticeship.

The practical curriculums are announced under group headings as metal working, electrical, automotive, aeronautical, architectural drafting and building, home economics, printing, art, and music.

The metal-working curriculums offered serve students seeking to become machinists, toolmakers, patternmakers, molders, or salesmen of machinery supplies or other crafts connected with the metal industries.

The electrical curriculum is based upon offerings that purpose to give the student a broad working knowledge of the fundamental principles of electricity and their applications which are common to most electrical occupations. This includes work in radio and telephony. Various types and makes of electrical appliances, fittings, tools, and electrical equipment, are studied by students of this department to familiarize them with the fundamental principles of estimating and contracting.

The automotive and aeronautical curriculums are designed to give a thorough grounding in the construction and scientific principles of the automobile and the airplane.

In a similar manner the architectural drafting and building and the printing departments prepare young men for entrance into the building trades and printing occupations on an advanced basis.

The homemaking curriculum for girls is definitely pointed toward vocational objectives. Institutional homemaking is offered for the purpose of training workers in hotels, cafeterias, restaurants, hospitals, laundries, and similar institutions. Work in dress designing is also part of the instruction available to girls.

The art curriculum seeks to prepare young people for commercial art, costume illustration, the arts and crafts, and industrial design. The courses serve as a base for similar work in advanced schools or for beginning positions in the occupational life of the community.

The music curriculums are both vocational and college preparatory in character and are designed to carry forward the training of young people who have had two or more years of approved music training or who have played in the regular junior high school music organizations of the city prior to their entrance at Cass.

It is significant of the curriculum organization of the Cass Technical High School that it places emphasis upon the all-around development of the individual rather than upon narrow specialization in trade work and that it sets its requirements, both for entrance and for graduation, upon a level calculated to insure the success of two groups: (1) the large group of secondary students who find their outlet directly in business and industry immediately upon graduation, and (2) the smaller group which will pursue technical and specialized education in higher schools of learning upon leaving the technical high school.

3. Central Commercial High School, New York City

The Central Commercial High School of New York City, like most of the vocational high schools, emerged from the continuation-school era. Originally known as Central Commercial Continuation School, with headquarters in a loft building in the downtown section of Broadway and with twenty-two annexes, it is now located in an old but well-constructed elementary-school building at 214 East Forty-Second Street, in the heart of the business section of New York. Both the location and the layout of this old building meet the requirements of the school.

Because the senior high schools are organized primarily on a college preparatory basis, and because economic conditions at home or inability to cope with academic subjects makes it impossible for many students to pursue and complete the full four-year traditional courses, a new type of institution had to be found to absorb this group and prepare them for occupational efficiency commensurate with their intelligence level and vocational ability. Central Commercial High School was organized to meet this need, and by its variety of commercial courses it does serve the student within his capacity.

Upon admission to this school after graduation from junior high school or the completion of at least one year of high-school work, the student is given a series of tests to determine his capabilities and aptitudes. He is then directed into the course for which he is best fitted, for training in the field in which he is most likely to succeed. In addition to the major vocational commercial courses—secretarial practice, salesmanship, bookkeeping, and clerical procedures—there are specialized short-unit courses for the advanced students and for high-school graduates: hotel accounting, technical stenography, dental assistants, legal and medical stenography, operation of such machines as calculators, bookkeeping, and billing machines, and dictating and transcribing machines. Another specialized course is for the training of dental mechanics. This course is given on different levels, depending on the previous schooling of the student.

An unusual feature of the school is the floristry course for a selected group of students of the salesmanship department. A sales laboratory and a complete florist shop have been built on the main floor of the school building, so that the theoretical training in merchandising and salesmanship given in the classroom is supplemented by practical experience obtained in actual selling and store management.

The school is fortunate in having the facilities to carry on an extensive health program. It has a well-equipped medical office and an infirmary with a nurse in attendance during each session and a doctor assigned for three hours each day. Because the services of a doctor are available every day, it has been possible to have complete physical examinations of each of the 3,700 students on the annual roll of the school.

The dental clinic conducts periodic examinations of all students. Treatment is given to those children who have no other way of securing dental care, and the others are referred to their own dentists. This dental clinic serves as a dental laboratory for students of dental mechanics, and it provides the means of giving practical work to the dental assistants.

As in all other vocational high schools, guidance, placement, and follow-up are essential features of the school. Graduates are continually called back to the school to give advice as to changes of curriculum on the basis of their experience in business and to inform the entering students on the trials and tribulations one has to meet in the initial job experience. An advisory committee of business men acts as

a counseling board to both teachers and students in the matter of requirements and standards of changing business procedures.

One of the outstanding features of this school is its service to the community. Anyone who is in need of brushing up on old skills or acquiring new skills may come in at any time and enter a class under the supervision of a teacher to bring himself up to the standard necessary to secure a position or to hold the position he has. Employment agencies, welfare groups, federal, state, and city institutions have cooperated to a great extent by offering temporary positions to the students of the school for a period of two or three weeks to acquire actual business experience supplementing their instruction in the classroom. The work on the job is evaluated by the teacher and by the person in charge of the personnel department of the institutions so that corrective measures may be employed to overcome any deficiencies observed. This part of the work is always voluntary on the part of the students and is in the nature of repayment by them to the institutions for services rendered in various forms by those organizations to the schools.

The location of the school, the equipment, and the varied commercial courses given, added to the fact that the school is open from eight in the morning until ten o'clock at night, make Central Commercial High School a magnet for employed and unemployed persons of all ages where they may obtain training necessary to secure a position or hold on to a job. In the course of a day about eight thousand different people take advantage of the opportunities offered in the school.

VI. Vocational Schools

Vocational schools as such are largely organized on a flexible basis to serve out-of-school and adult groups whose educational needs and demands require prompt service. Milwaukee has developed the largest school of this type.

1. The Milwaukee Vocational School, Milwaukee, Wisconsin

Wisconsin, through special legislation, has placed the responsibility of meeting the educational needs of the out-of-school groups upon local boards of vocational and adult education in forty-five of its cities. By this provision Milwaukee, the state's metropolis, has developed a vocational-education program under a board of vocational and adult education which is independent of the general board of school directors

arged with the responsibility of administering the city's elementary ıd high schools. The fears of many critics that this so-called "dual" an of administration and support would lead to the establishment competitive school systems on a class basis have not materialized. ilwaukee's school services are both co-operative and complementary.

The general schools educate the sheltered students subject to the ll-time compulsory education laws. The vocational school continues ıe education of those who have left the shelter of the general neigh-ɔrhood schools and who are in the job market, at work, or seeking ork. Limited by special legislation, the vocational school, with its ɨparate financial provision, has developed adequate services suited ı the special needs and conditions of out-of-school people who are ɲbitious to continue their education on marginal time in day, eve-ıng, or night schools.

The Milwaukee Vocational School opened its doors in 1912 as the lilwaukee Continuation School. It began with an enrolment of three ıousand continuation students and a small number of apprentices ho attended school one half-day per week. It also opened an eve-ing school for adults. In thirty years it has evolved into a very ɔmplex institution which serves eight thousand day and twelve thou-ınd evening students currently on time patterns ranging from one to ɜn half-days per week in the day schools, and time patterns of one nd one-half, two, three, or six hours per session in the evening and ight schools.

The school is coeducational and tuition free to Milwaukee residents. t registers no one under the age of sixteen. Only one-seventh of its en-ɔlment (the continuation students under 18 years of age) is under ɨgal compulsion to attend. Six-sevenths of the enrolment (all over 18 ears of age) is, therefore, wholly voluntary. The cumulative enrol-ıent for each calendar year exceeds thirty thousand students. Of this umber all but twenty-five hundred who are served at five branch vening-school centers receive their instruction in the seven-floor build-ıg and three-story annex located on two city blocks in Milwaukee's owntown area. The plant and equipment are evaluated at $5,120,000. he annual operating budget for the current fiscal year is $1,360,399.

The school's educational services are rendered to students through ıe Division of Instruction and Research and the Division of Student ervices. In developing instructional programs to meet individual eeds, the Division of Instruction and Research has had to flex rapidly

over the years to meet changing conditions, and today offers services to eleven well-defined types of student groups. Students in the school are classified as (1) apprentices, (2) part-time continuation, (3) full-time continuation, (4) adult preparatory, (5) adult high school, (6) vocational junior college, (7) adult special, (8) rehabilitation, (9) school of nursing, (10) technical engineering, and (11) national defense.

Practical instruction is offered by the following instruction departments: (1) applied and fine arts, (2) commercial and distributive occupations, (3) homemaking, (4) industrial, and (5) personal service. Academic and general instruction is offered by the (6) language and literature, (7) mathematics, (8) natural science, (9) physical education and health, and (10) social studies departments. Not all of the instruction departments offer training to all of the divisions of students, although each instruction department offers courses in quite a number of them. A few departments touch all types of students. Out of this co-ordination of the services with the divisions there issue hundreds of courses of study, both practical and academic, organized to meet the requirements of students with varying degrees of educational attainment.

The Division of Student Services supports the work of the Division of Instruction and Research by an adequate program of induction, testing, guidance, job placement and follow-up of students who avail themselves of the school's services. The staff services of the Student Service Division are also co-ordinated with the work of the teachers in the Division of Instruction and Research, who are charged with counseling and advising students as well as instructing them.

CHAPTER XXIII

VOCATIONAL PROGRAMS IN JUNIOR COLLEGES

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I. INTRODUCTION

The American junior college is today emerging as one of the most potent influences in public education. Although a relatively young institution, it is already playing an important part in determining the place of vocational education in the schools of the nation. Its beginnings were not auspicious. At the outset it was little more than an attic built upon the high school or a basement entrance to the university. It either added some "more of the same" to the high-school program or attempted to reproduce in detail the first two years of the liberal-arts college. Both patterns fell short of the real need for a new and effective terminal facility for those who could and would remain in school beyond the high school but who did not need or want the four years or more of the kind of curriculum offered by the colleges and universities.

Eells reports that "there has been from the early beginnings of the junior-college movement a clear recognition of the terminal function in both its general and its occupational aspects. This recognition is found almost equally among the publicly controlled and the privately controlled institutions—and in all parts of the country. The recognition of such need is clear. The extent to which this need, clearly realized, has been met actually in practice, however, is quite a different matter." [1]

Early reports of curricular offerings in junior colleges indicate but slight attention to the task of preparing students for occupational life. In 1917-18 only 18 per cent of the total offerings in the public junior colleges and 9 per cent of those in the private junior colleges were vo-

[1] W. C. Eells, *Present Status of Junior College Terminal Education.* American Association of Junior Colleges, 1941.

cational in nature.[2] By 1937 the terminal courses of a vocational nature had risen to 35 per cent of the total offerings of public junior colleges.[3] Recent months of preparation for and participation in war have seen an acceleration in the movement toward greater emphasis on practical and functional curricular offerings in all public schools. The junior colleges have been alert to the demands of the armed services and of the technical and skilled occupations included in essential war industries. While specific reports are not available, it is safe to say that over half of all work given in public junior colleges at the present time is aimed at the immediate adjustment of students who will soon be called upon to participate in the nation's war effort. In a study made in 1941 by the American Association of Junior Colleges, of 443 colleges reporting, 308 offered some terminal courses. It is evident that the junior college is destined to be "the peoples college" of America and as such will recognize as one of its major functions the adjustment of youth to occupational life.

1. Terminology

"Vocational Education is learning how to work"; so says Keller in chapter i of this Yearbook. It is the responsibility of a school which would admit vocational education as one of its functions to offer a program of planned and controlled experiences which will enable an individual more rapidly and more effectively to take his place as a skilled worker in an occupational field. On the junior-college level the word "vocational" is used less often than certain synonyms, such as, occupational, semiprofessional or terminal education. Those responsible for the development of occupational-training programs on the junior-college level have considered the term "vocational" too closely associated with those occupations which have been subsidized by the federal government under the Smith-Hughes Act. There is also a prevailing impression that vocational education is of "less than college grade." The presence of this phrase in the Smith-Hughes Act has strengthened this interpretation. Furthermore, it has been pointed out that the junior college must serve a vocational group that occurs between the skilled manipulative occupations on the one hand and the professions on the other, hence the term "semiprofessional education."

[2] F. M. McDowell, *The Junior College*. United States Bureau of Education Bulletin No. 35, 1919. Washington: Government Printing Office, 1919.

[3] C. C. Colvert, *The Public Junior College Curriculum*. Baton Rouge: Louisiana State University Press, 1939.

No terminology, however, has been so consistently and frequently used in the literature of the junior-college movement as has "terminal education." The recognition that, for many, the junior college will be the final contact of the student with the public school system has lead to the development of this concept of the vocational program. Terminal facilities, terminal function, terminal courses, and terminal education are used synonymously with other terms denoting a program of training for occupational fields.

The "technical institute" is a term used in many sections of the country to designate the semiprofessional engineering courses offered on the junior-college level. The Society for the Promotion of Engineering Education has defined a technical institute as a school of post-secondary character but distinct from college or university in the American usage of these terms. Its purpose is to train men and women for callings and functions that occupy an area between the skilled crafts and the highly scientific professions. Being intensive in purpose, its courses are of shorter duration than those of the professional colleges and include less of cultural or general content. Its admission and graduation requirements are less formal than those of the colleges and stress capacity and experiences more than credit units.

Whether referred to as vocational or terminal or technical, the American junior college is rapidly developing into an institution concerned with the practical preparation of persons on the post-high-school level for gainful employment as skilled workers and noncommissioned officers in the business and industrial world.

2. Present Status of Junior Colleges

The junior college has not had equal development in all parts of the nation. Of 627 educational institutions classed as junior colleges in 1941, 279 were publicly controlled and supported while 348 were under private management. The public colleges are located principally in the north central states and in Texas and California. The middle eastern states boast only nine public junior colleges—six in Pennsylvania and three in New Jersey. The New England States have none. Texas has twenty-four; Iowa, twenty-seven; Illinois, thirteen; Oklahoma, twenty-six; and California, forty-eight.[4]

The enrolment in public junior colleges shows even less general distribution, with California having 49 per cent of all enrolments in the

[4] *Junior College Journal*, XII (January, 1942), 279.

nation and Illinois and Texas having about 10 per cent each. In 1942, the 197,375 students enrolled in the public junior colleges were distributed as follows: California, 106,086; Illinois, 15,477; all other north central states, 36,870; southern states, 26,571; other western states, 7,215; all eastern states (including Canal Zone) 5,136.

Terminal courses enrolled about 35 per cent of all junior-college students in the nation. In California the vocational offerings attracted over 50 per cent of the enrolled students, in Texas 30 per cent, in Illinois 16 per cent, and in Iowa 8 per cent.

3. Organization and Finance

Publicly controlled junior colleges are operated by the state in seventeen states, and by local school districts in fifteen. In nearly every city with a junior college of over one hundred enrolment some type of survey has been made to determine the vocational needs of the community. Many have set up advisory committees to guide the development of the program and assist in planning the instructional content of vocational courses. Some vocational guidance is given in each institution; but placement of graduates is recognized as a specific function by only half of the colleges reporting.

In a few states, notably California, all junior-college services are free of tuition. Some states charge fees to cover part of the costs and a few make a charge sufficient to defray all expenses. Federal aid under the Smith-Hughes and George-Deen Acts is now available to junior colleges under the same conditions that have governed vocational aid to high schools.[5] Only a few colleges report having taken advantage of this federal assistance. Several report the operation of pilot-training courses under supervision of the Civilian Aeronautics Administration with federal funds available to cover cost of the training. A few cities have developed part or all of their national defense-training program in the local junior college.

II. The Nature of Vocational Education in the Junior Colleges

1. Purposes

The junior college literature exhibits an interesting and at times pathetic confusion of philosophies. There is the statement that the school at this level must aid in the transition of the youth to the adult;

[5] See Chapter IX.

and again the claim that this institution, if it is to be worthy of the name "college," must be fashioned for a maturity of responsibility; and yet again it has been said that the junior college came into existence because those for whom it was created were still children and should not be "sent away from home to a distant university."

One school of thought would have the junior college relieve the universities of the first two years of college work and another would have it independent of the university and designed to meet the needs of those who will never go beyond the fourteenth year of school.

The traditional conflict between vocational education and general education has been traced by Kefauver in chapter ii of this Yearbook. He states that specialization in training may have a place in general education and points out that the vocational objective may constitute a support for the motivation of general education studies. It may also be asserted that the vocational interest is the strongest of all human motives; and for those who are approaching the time when they must assume self-responsibility (as is the case with three-fourths of all junior-college students), they will find in job preparation the spark that will fire all educational effort. The individual discovers in his occupational planning a relationship to all other areas of activity. His success in affairs of the heart, his chances of building a home, his place in the life of the community as a citizen, and his standing in his own opinion all depend upon the extent to which he achieves occupational efficiency. For this youth, who in three out of four cases will have no further educational opportunity in a full-time school, the program should be centered in his vocational needs and should be so functional as to leave no question in his mind as to why he is following the particular course. Yes, he needs "general" education as well—and general cultural courses should be available to him—but he will welcome the cultural opportunity in the degree to which he can see the need of an ever wider range of knowledge in order to accomplish his chief objective—job success.

2. The Appropriate Time for Vocational Training

Will all vocational education of a specific nature be given on the post-high-school level? Will the high school become a general preparatory school for the specialization which will characterize the junior college, the trade school, or the post-high-school commercial school? For a time during the past decade this appeared to be the trend. Entrance to occupational life was being delayed by economic condi-

tions and the age of dependency was extended by two or three or even four years. In this condition it was natural to delay the vocational "specifics." But 1942 presents a different picture. Employment is available to all and at a much earlier age. Youth by the thousands are leaving school to work in war industries or in jobs left vacant by others who have been called to military service. It becomes evident that some force other than educational desirability governs our answer to the question "where should vocational training be placed?" The answer depends upon two elements: First, how much education is necessary for success in a given occupation and, second, how long in the face of social and economic conditions can we hope to retain youth in the full-time schools. For many boys and girls, and in many kinds of work, if pre-employment training is to be given at all, it must be given in high school, for that will be their last contact with the full-time school.

It is reasonable to expect that the pendulum will eventually swing again in the direction of post-high-school placement of much of the specific preparation for vocational life. After the war there will likely be a period in which the service of boys and girls will not be so much in demand and it will be necessary for the schools to meet the challenge of providing activities for unemployed youth. Then will come the real opportunity for the junior college to develop a type of service which will combine vocational guidance, vocational preparation, work experience, and general education.

3. The Present Program

During the months of American participation in the war, the junior college will find its greatest opportunity for service in a program of co-operation with the agencies directly engaged in winning the war. The normal population of a junior college is of an age to be immediately needed in the war effort. The young men will be drafted to service in the front lines; the young women will be called upon to serve in the factories and offices behind the lines. Either the junior college becomes a part of this war effort or it goes out of business for the duration. It will relate its curriculum and its plan of operation to the military needs of the nation or it will shrink and dry up because of its indifference and impotence.

Co-operation with the Civil Aeronautics Administration in the training of pilots has given the junior colleges a chance to render a most valuable service. Young men are afforded an opportunity to carry as

part of or in lieu of the junior-college course the primary and secondary courses of the civilian pilot training program. The cost of the instruction is covered by reimbursement of the local school district from federal funds. The flight instruction is usually given by private contractors. The whole program acts as a feeder to the army and navy air corps. The details of this plan are described by Professor Emerson in chapter xvii.

The Army Air Corp Institute is a more recent development and is designed to furnish in junior colleges the preliminary instruction necessary for young men who will enter the air corps as flyers. The Off-Reservation Training (O.R.T.) program is a plan developed by the Army Air Corps to assign to approved schools the task of preparing men and women for aircraft service and maintenance in the army air depots and sub-depots. Wherever junior colleges have been found to have adequate facilities they have been designated to handle this O.R.T. activity.

The Navy, through its "V" programs, is utilizing the junior colleges to create a reservoir of selected and at least partly trained men for the naval services. Students are enlisted in the Navy and then assigned to duty in the college where they will continue their training in some field that will make them more useful to the government service at a later date. The Army Reserve is a similar move on the part of the army to create a reserve among college students, and, by the date of publication of this Yearbook, many junior colleges will have been approved as Army training centers, and hundreds of young reservists will be permitted to continue their education until they have attained skill and knowledge which will be effective in military life.

The Army organization presents a complete cross section of human life. The same is true of the Navy. All of the occupations of civil life are necessary in a military camp and people must learn to carry out occupational duties in war time as well as in peace. The junior-college administrator can, with a little imagination and adaptability, convert his institution into a war college and can make it serve in a terminal capacity for those who will shortly be enlisted in the armed forces.

The immediate responsibility of the junior college is the task of developing and conserving the youth resources of the nation to the end that victory may soon bring peace; and peace will permit the return to a balanced educational program where the individual may be considered as something more than a recruit for the service of war.

5. The Future Program

When the war is over and another armistice is signed, the junior colleges of the nation will be faced with rebuilding their program. If they have been successful in adapting their facilities to the war effort, as suggested above, then they will have preserved the organization, the skeleton, the basis upon which the rebuilding can be done. As the task proceeds, the following conditions should be kept in mind:

(*a*) The junior college is primarily a terminal institution: As such, it should be more closely related to the secondary schools than to the colleges or universities.

(*b*) Because of its terminal responsibility the junior college must give emphasis to the competency of those who attend—and this competency must be of four kinds: (1) economic or vocational, (2) social or cultural, (3) civic, and (4) individual or personality competency.

(*c*) The junior college must be ready to offer all types of training of a post-high-school nature, the demands for which spring naturally from the social and economic life of the community. This will mean short courses as well as the traditional two-year program; it will mean late afternoon, evening, and Saturday classes; summer classes; and intensive classes with all marginal values and "watered stock" eliminated.

(*d*) The program can be best related to community needs through the use of advisory committees made up of competent representatives of employers and employees.

(*e*) Work experience is an indispensable part of occupational adjustment. It will be necessary for junior colleges to provide for such experience as a part of the terminal program. This may be an opportune time to develop some co-operative agreements with employers whereby the learner will spend part time in the junior college and part time in employment, both job and school experience being related to his ultimate vocational objective.

(*f*) The vocational program of the junior college will depend, as do all other educational enterprises, upon the quality of the teaching. Up to date no adequate provisions have been made for training the kind of teachers that will be required. Probably the most serious problem in this area of education is that of securing a proper balance of scholastic and occupational experience for the teachers who are to handle the semiprofessional terminal courses.

(*g*) It is the responsibility of the junior college to combine general education and vocational education in such a way that each supplements the other (see chapter ii). Vocational education must not be something "tacked on"

to general education but must be rightly used as a motivation for the cultural growth of the individual.

(*h*) The "peoples college" should become the new continuation school of America. It should be a place where any individual in the community can satisfy his needs for educational guidance and occupational adjustment on a post-high-school level. It should be a place where he can get education in the amount he desires at a time when it is convenient and in a manner or a method by which he can most easily profit. It should be an educational superservice station where every high-school graduate can obtain the help he needs to continue as a growing individual.

III. Current Junior-College Programs

The foregoing discussion depicts the junior college as an institution capable of making rapid adjustments to meet changing social and economic needs. The difficulty of reporting examples of such institutions is therefore readily evident. The program of a given school, as set up at the time of writing, may have changed to an entirely different plan by the time this Yearbook is published. That is as it should be.

The following examples will, however, offer certain valuable suggestions to administrators planning the inauguration or revision of junior-college programs. The examples have been chosen from all parts of the country and only publicly controlled programs have been included.

1. Amarillo Junior College

Amarillo, Texas, a city of 51,500 population, operates its junior college as part of the public school system. In 1939 the enrolment was about two hundred with half of the student body registered in terminal courses. In 1940 and 1941 the enrolment increased with the addition of national defense classes in welding, machine shop, aircraft sheet metal and aircraft engine maintenance. Each of these classes is planned to prepare trainees for employment in a period of four months. Other terminal courses, each planned on a one-year basis, include typing with seventy-five enrolled; shorthand, eighty; bookkeeping, sixty-five; and business machines, forty. At the present time 75 per cent of the enrolment is in terminal courses.

Here is an example of the junior college as a center for the local program of national defense training. The absence of a trade school in this city and the limited facilities for industrial training in the high school were factors in selecting the college for defense training. The

existence of a nucleus program made it easy to develop the emergency training.

2. Bakersfield Junior College

This school, located at Bakersfield, California, is selected as an example because of its well-developed program of work experience provided for vocational students.

The fields in which terminal vocational training is available are agriculture (animal science, plant science, and farm management); business education (accounting, salesmanship, secretarial science, business management, and merchandising); technology (aviation, machine shop, electrical, welding, sheet metal, and oil technology). During the current national defense-training emergency, offerings are also available in intensive trade-preparatory courses in aircraft metal, machine practice, and welding.

Agriculture courses meet on the campus for classroom work and at the school farm for field work. Students enrolled develop home projects as well. Business-education courses are maintained on the campus except for project work in merchandising in local department stores and some project work in office practice in local business or professional offices. Instruction in aviation technology and aircraft metal work is given at the school laboratories and at the Kern County Airport. Other technology courses are taught on the campus.

3. Boise Junior College

Boise Junior College was one of the first created under the legislative act of 1939 legalizing the establishment of junior college districts in the State of Idaho. Semiprofessional or terminal courses of a vocational nature were offered for the first time in 1940. Five curriculums are available: business administration, forestry, radio, woodworking, and ceramics. To quote President Chaffee:

> Probably the outstanding thing we are attempting to do at the present time is the development of a pottery- and tile-training industry within the junior college. We have found extensive local deposits of clay which appear to be ideal for such pottery work. Inasmuch as there are no commercial potteries within a radius of four hundred miles from us, we have clear sailing in this particular field.

The junior-college program may eventually give impetus to the development of a new Idaho industry.

4. Dunbar Junior College

Dunbar Junior College is in Little Rock, Arkansas. The following description of the work of this school was provided by the dean of the institution, William H. Martin:

Dunbar Junior College, one of the four municipal junior colleges for Negroes in the United States, was organized in 1929 as an extension of Dunbar High School. It had in the beginning two objectives: (1) to prepare teachers for the Negro elementary schools of the city of Little Rock, and (2) to provide a two-year program for general education for young men and women of the city of Little Rock. Over the thirteen-year period the only terminal course has been the two-year teacher-education program which upon completion entitles a student to receive a four-year elementary-teacher certificate in the State of Arkansas. In regards to the placement of the four hundred graduates who have attended the institution, this number makes up approximately 75 per cent of all the Negro elementary teachers in Little Rock.

5. Hershey Junior College

Hershey Junior College, located in Hershey, Pennsylvania, is an integral part of the Derry Township public school system. The college is organized into three divisions—general college division, lower division, and technical division. Students are enrolled in a division only after thorough guidance is completed, including interview, tests, and examination of records.

The *technical division* meets the needs of those students interested in trades, business occupations, and technical employment. Graduates from Hershey Vocational High School and other schools of high-school grade who desire to become noncommissioned officers of industry are advised to enrol in this division. During the school year the enrolled students spend at least one-fourth of their time in industry. The following curriculums are available in this division:

(*a*) Business education (two year course) which includes accounting, statistics, law, economics, secretarial science, selling, and marketing. This course prepares for general employment as noncommissioned officers in stores, offices, and commercial establishments.

(*b*) Industrial education (two year course) which attempts a combination of the trade-school technique with the general-college approach to technical training. Each student is required to take two years of mechanical drafting, certain science, mathematics, and English courses, and an industrial survey course. Industrial students are also

given a course in elementary bookkeeping and sufficient typewriting to prepare their notes, reports, and records.

6. Hutchinson Junior College

Hutchinson, Kansas, a city of about 29,613, has developed a strong junior-college program with an enrolment of six hundred students. The college was organized primarily to offer the first two years of university work. Demand has forced a change in the emphasis from college preparatory to vocational. Only 30 per cent of the graduates continue immediately in college work. The other 70 per cent are rapidly forcing a change in the program of studies. Already courses have been opened in secretarial practice, advertising, and commercial art. A vocational building is now being built with the co-operation of the National Youth Administration. This building will ultimately house a complete industrial program serving the technical and mechanical occupations of Hutchinson.

7. Los Angeles City College

The Los Angeles City College, a two-year junior college, is a unit of the Los Angeles city public school system. Of an enrolment of approximately six thousand, 75 per cent are engaged in vocational-terminal programs. Students are guided by selective procedures and counseling into those curriculums which seem best adapted to individual interests and capabilities. Upon successful termination and graduation with the Associate in Arts degree, students are placed through the aid of a placement office which works in co-operation with the United States Employment Service and is staffed by a full-time placement coordinator and necessary part-time teacher help and secretarial assistance. A continual follow-up of graduates is kept so that the placement service is available not only immediately upon termination of college life, but until that time when the young graduate reaches the point of stability where he is no longer in need of the college's service.

These semiprofessional curriculums (vocational-terminal) are offered in many fields including, among others, architecture, art, accounting, banking, bookkeeping, general clerical, finance, general secretarial, legal secretarial, management, merchandising, dental assistants, police-officers curriculum, engineering in aviation, civil, electrical and mechanical, gardening, landscaping, home administration, journalism, opera, prenursing, and radio and drama. This is not inclusive but,

rather, a general idea of the scope of semiprofessional education. Two of these courses are worthy of special mention.

The radio and drama department is very popular due to the fact that the City College, being located in the heart of Hollywood, is looked to for the production of talent for the moving-picture studios and radio stations. Being in the center of the demand, the City College has met it by successfully developing courses leading to employment in all fields of moving-picture production, writing, acting, and radio.

In close conjunction and co-operation with the Los Angeles Police Department, the police curriculum trains men for duty as future law-enforcement officers. Graduates from this curriculum are much in demand not only in the local police department but in sheriffs' bureaus, different industries as plant watchmen, and other places where training in law enforcement is of extreme value.

8. Meridian Junior College

Meridian, the second largest city in Mississippi with a population of 40,000, is the center for a large agricultural region. The school system is organized on a 6-4-4 plan, the upper four grades being known as the junior college. The thirteenth and fourteenth years enrol a total of about two hundred students. Sixty to sixty-five per cent of this group are enrolled in the terminal courses.

The vocational program includes shorthand, secretarial training, accounting, typing, homemaking and home economics, photography, art, drafting, and interior decoration. The industrial program has been worked out in co-operation with the National Youth Administration. Offerings in this division are welding, sheet metal, pipe fitting, auto mechanics, and woodwork. A new vocational building on the senior high–junior college campus is under construction by the National Youth Administration. This building will become the property of the school system and will house classes for out-of-school N.Y.A. youth and certain full-time junior-college students.

This junior college does not close its doors when darkness falls. A college division evening school is in operation four nights per week. Regular junior college credit is offered for work meeting minimum standards.

An outstanding feature of this college is known as the "diversified occupations program." This is a co-operative school-and-work program. It has been in operation for three years and assumes responsi-

bility for placing students for part-time employment in such jobs as retail selling, embalming, nursing, accounting, general office work, butchering, projection-room operator, stockroom clerk, laboratory technician, and linotype operator.

The college provides a placement service under the supervision of the director of vocational education.

9. Phoenix Junior College

Operated from 1920 to 1927 as a postgraduate division of the high school, the Junior College of Phoenix, Arizona, was given legal status in the latter year, by act of legislature, and was admitted to the North Central Association of Colleges and Secondary Schools. Among the purposes of the college are the following: to provide vocational education for students who do not plan to transfer to other institutions of higher education; to provide subjects that will contribute to the civic and liberal education of those who attend; and to make possible the continuation of the education of adults. The vocational program is built around the needs of business and industry in the State of Arizona. The commercial department is the largest in enrolment and includes business administration, accounting, secretarial work, and merchandising. The terminal courses in homemaking include the usual offerings of textiles, foods, clothing, home decoration, and nutrition. The industrial department is the newest of the vocational curriculums. Out from these classes go men to take their place in the building trades, mechanical engineering, plumbing, refrigeration, sheet metal, and mechanical and automotive industries. These courses are operated in co-operation with the Arizona Vocational School. Because of the lack of shop facilities on the junior-college campus, the college uses the shops of the trade school for half of each day. Related courses in science, mathematics, drawing, economics, and accounting, are given on the college campus.

10. Sacramento Junior College

Sacramento, California—a city of over 100,000 population, the capital of the state, and the center of the great agricultural region in the interior valley—operates a two-year junior college as part of the local public school system. Last year 3,354 students were enrolled, and of these 60 per cent were listed in the terminal courses. There is little if any difference in ability or scholarship between the students in

the terminal curriculums and those enrolled in the college-preparatory or certificate courses. Representation on athletic teams, school activities, and leadership positions is likewise equally divided. There is no question of "respectability" of the terminal courses in this school; in fact, the vocational students seem to have a slight edge in many school activities.

Two types of programs are possible for the student whose primary interest is intensive preparation for wage earning: (*a*) *Technical-institute courses* of two years leading to the degree of Associate of Arts. At least fifteen hours per week must be spent in the vocational field. (*b*) *Unit day trade classes* in which thirty hours per week are spent with the trade instructor. Both of these courses lead to employment. Aid is given in securing a job through the placement office which is staffed by two half-time teacher–co-ordinators and a full-time placement secretary.

The vocational program includes aeronautics, aviation mechanics, police training, cosmetology, metal manufacturing, prenursing, commercial (secretarial, accounting, merchandising), mining, commercial art, and homemaking.

Noteworthy is the Sacramento course in aeronautics which is probably first in size and thoroughness among the junior colleges of the nation. All courses are taught by federally certified pilots and mechanics, and work goes on in a truly professional manner in a beautiful, specially designed aeronautics building. The following subjects are taught in this course: aircraft drafting in a modern industrial drafting room; aircraft lofting in a spacious room, the floor of which becomes a layout drawing board the size of a gymnasium where the full size curves of the ship's fusilage and wings are developed; aircraft template and sheet-metal layout; aircraft construction in a well-equipped "factory"; engine overhaul and repair in a machine shop of no mean proportions; and seven other courses relating to the designing, building, maintaining, and operating of aircraft, each with appropriate equipment and instructional materials. Here, indeed, is real vocational education for the great aircraft industry, 60 per cent of which is located in the State of California and for which well-trained workers are so sorely needed.

11. Trinidad Junior College

Trinidad Junior College serves not only the city of Trinidad, Colorado, but the entire county of Las Animas. The total enrolment is about

seven hundred with four hundred and fifty enrolled in vocational-terminal courses. The vocational program includes: (*a*) *agriculture*—dairying, beef production, swine production, poultry production, and practical nursery training; (*b*) *trades and industry*—machine shop work, auto mechanics, and welding; (*c*) *commercial*—accounting, operation of business machines, and secretarial training; and (*d*) *homemaking*—sewing, cooking, waitress training, home nursing, and training in maid service.

The present year has seen new emphasis upon part-time and evening classes. Many students who formerly would have been registered for full-time instruction have secured employment but desire to continue their junior-college work during their spare hours. The above vocational offerings have been opened for evening enrolment with a gratifying response.

12. Wright Junior College (Chicago City Junior College)

In establishing the three Chicago City Junior Colleges, a principal objective was the inauguration of a more adequate and realistic junior-college education. During the course of the academic year, 1940-41, 6,242 students attended these institutions seeking such an education. Each student, regardless of his ultimate educational or vocational ambitions, devotes one-half of his academic program to a study of English, the humanities, the biological sciences, the physical sciences, and the social sciences. The balance of each student's program is fitted to his individual needs and requirements.

The curriculums of the Chicago city junior colleges are characterized by careful and considered planning. These curriculums total 544 semester hours of instruction and embrace such fields as accounting and general business, banking and finance, co-operative retailing, secretarial training, medical and dental secretaries, chemistry technicians, engineering technicians, and aviation and transportation. A total of 1,208 students were enrolled in these courses of study during the year 1940-41.

13. Weber College

Weber College of Ogden, Utah, furnishes an example of the school in which have been combined the usual functions of a junior college and those of a trade school. This institution offers: (*a*) *terminal courses* in both general and vocational subjects; (*b*) *the first two years* of university work; and (*c*) *intensive training* in selected skilled trades.

For all, except very large cities, this joint administration of two educational services seems to offer a promising outlook for small communities. The joint effort permits economy and efficiency of operation. Many other cities have found it economically impractical to operate a trade school or a junior college alone, but by combining the two functions they have been able to establish a practical operating unit.

Pasadena, California, has recently made a similar consolidation of their junior college and their technical or trade school. The two units, while located in widely separated sections of the city, are now operated under the same administration and are referred to as the west campus and the east campus.

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CHAPTER XXIV

VOCATIONAL EDUCATION IN LIBERAL-ARTS COLLEGES

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I. THE TREND TOWARD THE RECOGNITION OF VOCATIONAL EDUCATION AS A LEGITIMATE OBJECTIVE

The traditional function of the liberal-arts college has been to conserve and pass on the cultural heritage and "to promote the development of the student's intellectual powers." As defined by an outstanding college, Williams, the curriculum "consists of two well-defined parts: (1) the general and introductory courses of the first two years and (2) the advanced and more specialized courses of the last two years."[1] The departments of instruction normally consist of those common to the divisions of languages and literature, social sciences and philosophy, and science and mathematics. The more conservative of the colleges interpret their function as being quite distinct from vocational education. The latter, to them, implies an undesirable dilution of the curriculum and possible defeat of their broader objectives.

The most nearly pure representation of this attitude is found in the new St. John's plan, which in its use of one hundred picked books from the past, reverts to a fixed, classical type of curriculum analagous to that almost universally used before 1850. The principal sponsor of the St. John's idea, President Robert M. Hutchins of the University of Chicago, is outspoken in his condemnation of "vocationalism" in association with liberal education. It remains to be seen whether the interesting St. John's experiment will develop a substantial following.

An opposing school of thought, however, is making considerable headway among educators in the liberal-arts colleges. This view stems from the belief that mind and body, thought and action, are not separate and distinct areas and that the college has a responsibility for "the education of the whole man."[2] The more progressive of the colleges, too, look upon culture as a living process, evolving from the past, but of

[1] *Williams College Bulletin*, Series XXXIX, No. 3, November, 1941, p. 82.
[2] *Hamilton College Catalogue, 1941–42*, p. 18.

value only as it finds expression in the lives of people. Thus, the needs of the student and of his society become the focal points in constructing the curriculum. Thus, vocational education becomes a natural part of the function of the college.

One college, Allegheny, supporting this view, explains the relationship of vocational education to the liberal-arts program as follows:

> A college of liberal arts differs from a purely vocational or professional school not so much in the character of the courses it offers as in the nature of its outlook and aim. Many of its courses are frankly vocational and professional, but the aim of an arts college is something more than training in ways of earning a living or practicing a profession . . . . . [But included in its program is] an important place for vocational counseling and guidance.[3]

This viewpoint is analyzed in some detail in one of the Studies of the American Council on Education.

> "What are you going to be? What vocation in life are you preparing yourself for?" These are perhaps the most insistent, the most recurrent questions which boys and girls face. From cradle to college, this cultural pressure forces them to think about vocations. . . . . That students should be vocationally minded is not undesirable. The student with a vocational goal acquires more meaning from his educational experiences. Perhaps inarticulately, he correlates his educational program with his expressed or unexpressed goals, thus making the educational process a more integral part of his life. Both from general cultural courses and from technical courses he excerpts the material that relates to his conception of his vocational goals.
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> The writers of this bulletin contend that educational and occupational orientation, to be effective, must both operate from the same set of facts about the student. Succinctly stated, they must both be organized upon a foundation of a thorough clinical analysis of a student's abilities, motivations, and other pertinent facts about his qualifications and limitations. The objectives of educational orientation are not unitary; neither do they conflict with the objectives of occupational orientation. Educational orientation aims at assisting the student to make the most of his educational opportunities. In the liberal-arts college, this means educating him toward becoming a broadly cultivated individual, *at the same time* preparing for participation in a life activity which will be socially useful and personally satisfying. Occupational orientation is concerned with one aspect of this general objective, namely, assisting the student to choose and enter a vocation for which he is qualified. Those objectives are not in conflict. Rather they are overlapping and supplementary. Moreover, neither can be attained except

[3] *Allegheny College Bulletin*, Series XLI, No. 2, March, 1942, p. 27.

in terms of the individual student's personal configuration of abilities, goals, interests, and motivations. To make a man cultivated, the arts college must cultivate him in terms of his personal assets and liabilities. Occupational adjustment stems from the same source—individual diagnosis. From an analysis of the pertinent facts about a student, the college can determine what kind of orientation, educational, occupational, or both, the student requires.[4]

1. Vocational Guidance

Consistent with this belief that the vocational orientation of students is important, some of the colleges are beginning to introduce considerable opportunity for vocational guidance. Reed College, for example, makes a broad presentation of the vocational opportunities open to college graduates. "In entering upon a college program, the student is concerned with what he is to do after its completion and in particular with the bearing of a liberal education upon the professions and other vocations. The following discussions of vocational opportunities are presented to indicate the importance of the program of Reed College in laying the foundations for specialized work."[5] Then follows a discussion of the opportunities in and the preparation needed for the law, medicine, engineering, business, journalism, government service, social service, the library profession, and teaching. The College of Wooster[6] gives a similar presentation to its students, and adds to the list art, physical education, music, religious work, and speaking and dramatics.

Albion College carries this counseling program still further by a definite plan of faculty guidance based upon a detailed analysis of the vocational possibilities flowing from a liberal-arts curriculum. The following "is a sample possibility from one field."

Biology
- Laboratory technician
- Forestry
- Plant pathology—state or federal bureau
- Bureau of plant industry
- Conservation
- Museums and herbaria
- Director and assistant in botanical gardens

[4] W. H. Cowley, Robert Hoppock, and E. G. Williamson, *Occupational Orientation of College Students,* Study Series VI, Student Personnel Work, Vol. III, No. 2, Washington: American Council on Education, April, 1939.

[5] *Reed College Bulletin,* Vol. XX, No. 1, January, 1941, pp. 35-41.

[6] *The College of Wooster Catalogue, 1939–40,* pp. 15-23.

Research in industries involving specialization in biology
Medical profession
Dental profession
Teaching and research
Horticulture
Bureau of Fisheries
Department of Agriculture
Public health work
Bacteriologists
Technical work in commercial drug companies.[7]

The Albion study is very enlightening since it clearly confirms the Allegheny statement that many of its courses (that is, liberal-arts courses) are "frankly vocational and professional." This is normally true of all of the science fields and frequently true of many of the arts, such as art, music, psychology, economics, and political science; that is, majors in these areas are usually preparing definitely for a vocational career. The disclaimer by the more conservative colleges that liberal education has no relation to vocational education, then, has little foundation. On the contrary, the colleges which recognize that their "major fields" are definitely orientations toward occupational interests, and provide a co-ordinated counseling service, are performing an additional function of great importance in the lives of their students.

2. Specialized Curriculums

What I have said thus far relates to the more or less standard liberal-arts curriculum. In some of the colleges this curriculum has been broadened to include a few of the newer fields. The most popular of these is education. Probably a substantial majority of the colleges now have departments of education, or at least teacher-training courses. Usually the minimum requirements in this field are fixed by the state departments of education and the regional accrediting associations. The curriculums, however, may present a varied assortment of choices. Oberlin College, for example, presents for the kindergarten-primary majors a total of twelve courses in education, and for the secondary-level majors, twenty-seven courses.[8]

Among the other newer fields, the two most commonly found are

[7] W. W. Whitehouse, "Vocational Aspects of a Liberal Arts College," *Association of American Colleges Bulletin*, XXV, (November, 1939), 431-43.

[8] *Oberlin College Bulletin*, Vol. XXXIX, No. 6, 1940-41, pp. 35-40.

business and engineering. For example, Grinnell College has a business department, the aims of which are stated as follows:

> The underlying purpose of the work of the department is to combine the subject matter of business courses with liberal-arts work so as to prepare the college-trained man for immediate entry into the business world with an early assumption of responsible executive work.[9]

The courses at Grinnell include, among a total of twenty-four, accounting principles, business organization and management, business finance, marketing principles, practical banking, and office management and procedure. "The vocational side is opened in banking, insurance, accounting, salesmanship, advertising, etc."

Haverford College offers eighteen courses in engineering. They include shop methods, drawing, thermodynamics, strength of materials, electrical circuits and measurements, and others. Haverford also lays emphasis on breadth of training:

> The lack of broad education and of thoroughness in fundamentals has been universally recognized as limiting the usefulness and opportunities of many in the engineering profession. To provide against these deficiencies students majoring in engineering will be required to pursue additional studies of a general nature (history, ethics, economics, languages, etc.) throughout the four years, and to concentrate largely on mathematics, physics, and chemistry. This combination of breadth with thorough groundwork prepares the way for the highest professional development.[10]

The Haverford method of integrating engineering with the regular liberal-arts curriculum is representative of the policy of those colleges which have introduced these less traditional fields. In education and business there has been some temptation to overspecialize to the disadvantage of breadth of foundation, but in almost no cases have the liberal-arts colleges gone to the extremes which have been rather characteristic of the teachers colleges and the schools of business.

II. Programs Which Include Vocational Education

The philosophical idea of the education of the whole man is more consistently and fully carried out by a few colleges whose programs have some characteristics similar to those of the progressive elementary and secondary schools. Examples of these are Bard, Bennington, and Antioch.

[9] *Grinnell College Bulletin*, Vol. XXXVII, No. 1, 1939-40, pp. 56-60.

[10] *Haverford College Bulletin*, Vol. XXXIX, No. 2, 1940-41, pp. 55-59.

1. Bennington College

Bennington College (which is representative of the Bennington and Bard programs) was founded in 1932 as "a definite response to the need for a thoroughgoing experiment in higher education on modern lines." The objective was to create "a new institution to translate into the college field the spirit and methods identified in the schools below by the term 'progressive' and to create a curriculum especially adapted to the actual needs of women in the contemporary world." In analyzing its own aims in some detail, the college included that of occupational orientation, but as a natural part of the total education of the student. Some of the aims pertinent to the vocational adjustment of the student are as follows:

(1) That education is a process continuing through life, persisting most effectively in the years after college when the habit of educating oneself has been acquired; . . . . . (3) that such educational self-dependence can be developed most effectively if the student works at tasks which have meaning and interest for her; (4) that continuing education, self-initiated, is most likely to take place where the student has attained expertness, or a sense of mastery in a few fields of enduring interest or use, rather than smatterings in a great many fields; . . . . . (6) that direct experiences—planning, organizing, manipulating, constructing, and investigating, in conjunction with reading and the acquisition of knowledge—are valuable means for developing permanent interests pursued voluntarily; (7) that tools of learning such as statistics, and the use of English, to have meaning as well as to be most economically mastered, should be connected immediately, or in the process of learning, with the ends for which they are instruments rather than acquired as separate disciplines related vaguely to possible distant use; . . . . . (9) that intellectual development cannot and should not be isolated from the development of the whole personality, and that general arrangements, and especially individual guidance, should give proper weight not only to intellectual factors in personal growth but also to physical, emotional, moral, and aesthetic factors as well.[11]

To implement these aims, especially as they apply to vocational education, Bennington has the student select a "trial major" beginning with her Freshman year. This interest may be shifted at any time, after consultation with the student's faculty adviser, to some other field of interest; but at any given time the student is pursuing a definite interest and relating his cultural subjects to this interest. After sufficient progress has been made, based normally upon two years of work, the

[11] *Bennington College Bulletin*, Vol. X, No. 1, 1941-42, pp. 6-7.

student may be promoted to the senior division of the college where "the primary aim is to give a broad but thorough preparation in a field of adult activity, in which a student may continue to work with interest, so that she may graduate from college with some equipment which will be of lasting value to her in whatever situation she may find herself." Here again, breadth rather than narrowness of interest is important, although the student is expected to attain "some degree of specialized competence, so that both liberal outlook and specialization will be continued after graduation as a matter of choice."

The Bennington catalogue, upon the subject of vocational training, gives this additional explanation of its program:

> In the case of those vocations which are entered directly from college, Bennington College includes training in the necessary techniques and skills they require. There is no hesitation in relating senior division requirements to vocations growing out of work in the field. The type of intellectual asceticism which fears that contact with practice or reality will destroy the field for culture is not encouraged. The winter period is frequently used to test vocational aptitude and to acquire practical training. A valuable part of the student's education is the assessment, early in her undergraduate career, of her real capacity for the actual work towards which she is aiming.
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> On the other hand, vocational training is never permitted to interfere with the fundamental purpose of the senior division. Breadth and thoroughness of work requiring sustained intellectual or artistic effort, whether directed toward a vocation or as a preparation for leisure, is the test of success. The College seeks to avoid the false sense of security connected with too specific vocational preparation, and to provide breadth and flexibility of training suited to the special uncertainties of woman's life as well as to the general uncertainties of supply and demand which affect all occupations.[12]

At Bennington, the vocational adjustment and social orientation of the student are in part facilitated through actual experience obtained off the campus. Between the two semesters there is a two month's winter recess. The objective of this recess from the academic program is "to give students an opportunity for independent work on programs that can be better carried out away from the college . . . . . These programs may consist of reading and writing, of experience in an occupation, of study at other institutions, of observation or investigation." In practice, a substantial number of the Bennington students during this recess period secure actual positions in business, governmental, so-

[12] *Ibid.*, p. 18.

cial service, and other fields. Although the objectives are much broader than the purely vocational one, this experience aids greatly in securing good vocational orientation and initial vocational competence.

2. Antioch College

The brief descriptions of the programs of several representative liberal-arts colleges given above are designed to present a view of vocational education in the area of higher education. For the purpose of illustrating the subject in more detail, the chairman of the Yearbook Committee has asked me to describe the program at Antioch College as it relates to vocational education.

To begin with, Antioch is a college of arts and sciences; that is, its curriculum is essentially of the liberal-arts type. It subscribes to the view that the college is concerned with the whole student and that the program should be designed to meet the life-needs of the students. In interpreting these needs, however, the function of a liberally educated person in present-day society is the focal point of orientation.

Although the program has unity of purpose, of which the entire development of the student is the core, for purposes of administration it has three phases: the academic courses of study, the planned campus activities, and the off-campus work experience which is alternated with the periods of study on the campus. To aid the student in securing the maximum values from the program, there is an over-all student counseling service.

Since each phase of Antioch's program makes some contribution to the vocational education of the student, it is necessary to give a brief description of each. The academic curriculum is standard in content, except that it adds departments of education, business administration, and engineering. The subject matter in these areas is limited to fundamental material, and the same controls apply to these major fields as to all others. Although the Antioch curriculum is thus a normal one, several methods are used to give it flexibility and to enable it to meet individual needs. These methods are of particular interest as they relate to the subject of vocational education.

As will be noted later, Antioch encourages the student, beginning with the first year, to search for his eventual field of interest. In order to facilitate this, the introductory courses in most of the fields of concentration are open to Freshmen. The broader cultural courses and the field courses are thus paralleled and integrated throughout the college

course—which is a departure from the more usual practice of completing the general required courses during the first two years and then devoting the major portion of time to the field. Ample opportunity for a shift in interest subsequent to the Freshman year is provided. As an aid to exploring possible interests with which the student may have had no previous acquaintance, Antioch requires all of its students to take courses which are introductory to the several primary fields. Some very interesting cases of changes in interest have occurred when the students meet these exploratory subjects.

In its provision for major fields of study, Antioch makes a distinction which it believes to be important between departments of instruction and fields of concentration. With us, a field of concentration is defined as any combination and sequence of subjects which, in the opinion of the student and his faculty adviser, will give him intensive penetration into and preparation for a particular field of life work. The field, therefore, need not be identical with the department but may be made up of courses of study chosen from two or more departments. Naturally, the majority of the students will major within the usual departments, but this distinction in definition permits a high degree of individualization in the curriculum where that seems important. The opportunity for individualized work is further facilitated by permitting the student, in the advanced years, to take "tutorial courses." "These courses in each department are intended for the advanced student who has had a good foundation in his subject and who is able to work effectively by himself. With these prerequisites, he may enrol for special reading, laboratory work, or projects which will follow the lines of his individual and specialized interests."[13] Although these courses might be devoted to any subject matter approved by the student counseling committee of the faculty, the departments normally list suggested topics; for instance, the Department of Chemistry suggests industrial chemistry, advanced inorganic chemistry, advanced organic chemistry, advanced physical chemistry, metallography, inorganic preparations, and glass working.

Brief reference only can be made to the campus-activities program of the college. But Antioch has attempted to plan its campus activities in order to gain from them the maximum of educational value. The campus thus constitutes a "laboratory in living." Although the activities are primarily avocational in nature, occasionally students get definite vocational direction from activities in which they have partici-

[13] *Antioch College Bulletin*, Vol. XXXVII, No. 9, 1941-42, p. 43.

pated. Cases where journalism and dramatics have given students such direction are familiar to every campus. At Antioch, extra-class activities in travel bureau administration, community health work, fire and safety regulation, traffic committee work, and the administration of economic enterprises have also pointed toward life work.

The co-operative plan of work and study at the college is the principal medium through which vocational orientation and education are secured. Each student, before graduation, must have had a minimum of six quarters' work experience. Ordinarily, this is provided by regular jobs in industries, institutions, and professional and governmental services, on a plan under which the student alternates twelve weeks of work experience with twelve weeks of study at the college. These jobs are scattered over about twenty states and include nearly every kind of experience appropriate to the student's age and capacity for responsibility. The job experiences provide many educational values, of which those of personal maturity and development, supplementation of the college curriculum, vocational orientation and training, and direct observation of the experience in contemporary society are the principal ones.

By actually trying an experience in a supposed vocational interest, the student secures an occupational orientation which is not possible otherwise. In this way, vocational-interest tests and other counseling devices are supplemented by the trial-and-error process. That this is important is indicated by the fact that more than half of the Antioch students, before they have graduated, have shifted to interests other than those they announced as first choices in their Freshman year. As they work along, too, the students get considerable vocational training. For example, a major in the field of chemistry ordinarily will work several hundred hours in industrial or institutional laboratories. Finally, having had experience with one or more companies or institutions, his placement at graduation is greatly facilitated. Even if he does not choose permanent placement with the particular company with which he has worked, he graduates as an experienced and vocationally self-reliant person.

The student counseling service of the college is very broad, but it includes that of vocational counseling. At the outset of admission to the college the student is asked to indicate his interests. This is largely for the purpose of stimulating his thinking and causing him always to be aiming at some reasonably definite goal. A central record card is started for each Freshman, and on this is recorded all information accumulated about him. Included within this information are the re-

sults of scholastic and vocational-aptitude tests and of certain achievement tests. There is thus built up a case-history which enables the faculty and vocational advisers to counsel the student on the basis of fairly precise and accurate data.

In the Freshman year, the student takes an orientation course which is designed to do two things: to give him an orientation to the college and to his educational aims and opportunities, and to give him some basis on which to gain a satisfactory vocational orientation. Included are lectures about vocational opportunities and their relationship to the primary fields of knowledge covered by the curriculum. In connection with this course the student writes a life-aims paper which is carefully discussed with him by his advisers. In addition, he is required to spend about 160 hours of work during the course of the year on some practical job on the campus, unless he has entered upon the plan of alternating work and study from the outset. Thus, he can be observed by the counselors while he is at work, and he, in turn, learns how to work.

The specific vocational counseling arises rather naturally in connection with the placement of the student on the co-operative job. The college has a group of officers who perform this function. Since for a minimum of three years the student is spending part of his time at work on some actual job, there naturally is occasion for frequent and regular conferences with the vocational counselors. The resulting vocational adjustment can be expected to be very high.

A final step in the counseling procedure is the requirement of a senior life-aims paper in which the student analyzes his growth during the college period and his further objectives and methods for attaining them. This is a part of his comprehensive examination.

It will be seen from the above that Antioch gives considerable emphasis to the vocational education of the student. I would repeat, however, that this is but one phase of the development of the whole of the student, although we regard the vocational interest as a primary one around which the education of the students most naturally revolves. In the end the student has an education which has the substantial content of the liberal-arts curriculum but which is related to significant individual and social objectives.

3. Vocational Education as a Part of the Total Educational Objective

The illustration of the program at Antioch College is self-revealing concerning my own views on the subject of vocational education. I be-

lieve that part of the supposed difficulty of relating vocational education in a natural way to a liberal education is caused by two things: (1) a narrowed interpretation of vocational education to mean something akin to nonintellectual training or the acquiring of manual skills; and (2) a belief that vocational education and liberal education cannot be mixed—that they are inconsistent in their objectives and content.

That the first of these views in erroneous should be evident from the analysis which I have given from the catalogues of several leading liberal-arts colleges. If the term vocational education is too narrow in its meaning to be a serviceable one, perhaps on the liberal-arts level we should adopt the term used by the committee of the American Council on Education, "occupational" education. But regardless of what one calls it, it seems to me to be impossible to draw a distinction between liberal education and education for life.

For if liberal education has a function today, that function must be much broader than it has tended to be in the past. Liberal education must serve some larger purpose than that assumed by Fowler in his *Dictionary of Modern English Usage*: "It is the education designed for a gentleman (Latin *liber* a free man), and is opposed on the one hand to technical or professional or any special training, and on the other to education that stops short before manhood is reached." The true function of liberal education would seem to be to prepare students for active leadership in a dynamic society and to furnish some guidance for finding the basic values to be used in solving the essential problems in society today. "Liberal education may be defined as the education which tends to produce the liberal individual—the person who, because of his perspective of history, his critical observation of contemporary society, and his understanding of social dynamics, helps to facilitate needed change in the world."[14] In this setting, the past becomes a source of light upon ways and means of advancing contemporary culture.

Probably in at least ninety cases out of a hundred, the life work of the individual becomes the primary medium through which he finds his greatest personal happiness and makes his greatest contribution to society. Especially if he has leadership capacity, it is important that his life work be enriched by the perspective of knowledge and breadth of judgment which should come as a result of a liberal education. The vocational education of the student then takes its natural place as a part of the total educational objective.

[14] Algo D. Henderson, "The Function of Liberal Education in a Revolutionary World," *Proceedings of the Ohio College Association, 1942.*

CHAPTER XXV

PROGRAMS OF VOCATIONAL COLLEGES

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I. VOCATIONAL AIMS COMMON TO ALL COLLEGES

Preparation for a job is one of the major purposes of American colleges of all types today. It is difficult to designate any single group of them as vocational colleges, for the extent to which an institution is devoted to occupational preparation is a matter of degree.

To attribute the aim of job preparation to higher institutions generally does not violate their historical traditions nor their devotion to liberal and cultural ideals. In the earlier American institutions vocational training did not exclude nor conflict with liberal cultural education. Instead, the two were part and parcel of a unified educational program. In spite of the highly practical nature of many college courses today, the vocational aim is by no means incompatible with more general educational objectives within the same institution. Rather, as is pointed out in chapter ii, these two areas of emphasis should contribute significantly to one another's enrichment.

Patton's study reveals the prominence of the vocational objective in American church-related colleges. From an examination of the catalogs of such colleges in 1937, he found that they "are greatly concerned about the vocational preparation of their students . . . . . two hundred church-related colleges announced sixty-two different vocational curriculums; more than half of the colleges included in this investigation stated aims pertaining to the vocational preparation of students." He found that 96 per cent of the two hundred colleges offered full preparation for at least one vocation.[1]

[1] Leslie Karr Patton, *The Purposes of Church-Related Colleges*, pp. 58, 59, 113, 144, 145. Teachers College Contributions to Education, No. 783. New York: Teachers College, Columbia University, 1940.

From an investigation of both the activities and the pronouncements and claims of higher institutions, Haggerty found occupational preparation prominent in colleges, as indicated in the following statement:

> Whichever route the investigator takes, he soon comes upon one incontrovertible fact, namely, that higher education in America is saturated with the purpose of preparing men and women to be competent in the work of the world. Higher education in America has from the very beginning been characterized by a vocational purpose, and occupational fitness has always been a desired outcome of higher education . . . . an examination of the facts makes it unmistakable that those who founded our colleges believed, and those who administer them today still believe, that occupational fitness is a legitimate purpose of higher education.
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> This practical conception of the college is one that relates it vitally to the civilization that maintains it. The cultural life of America is that of men and work. They work with their hands and with their minds, with things and with ideas. They work for themselves and they work for the social good. . . . . They create schools and colleges that work may be performed better, that workers may be more skilful and more intelligent. These institutions become remote from life when they forget that sooner or later the young men and women whom they train must find somewhere in this overwhelming economic civilization some bit of work, the doing of which will entitle them to an earned livelihood and to the respect of their fellow men.
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> . . . . . .
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> In a study of the charters of 211 institutions, 137 were found to include statements of occupational objectives. This particular group of institutions included 46 land-grant colleges, 15 state universities, 7 teachers colleges, 18 liberal-arts colleges, 16 endowed universities, and 35 other institutions. . . . .
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> The emphasis upon occupational objectives in college charters is apparent also in the general literature dealing with educational purposes. For one occupation after another there is a large bibliography of books, monographs, journal articles, and reports of investigations centering about the problem of how occupational training should be conducted and improved. When one turns to the statements of the colleges themselves, the same emphasis appears in curriculums, libraries, laboratories, and other instructional facilities and in the character of the educational staff.[2]

The fifty-nine higher institutions surveyed in the North Central Association study claimed to give training for "approximately one hundred and sixty occupations that are sufficiently discrete to justify

[2] Melvin E. Haggerty, *The Educational Program,* pp. 15-56. North Central Association of Colleges and Secondary Schools, *The Evaluation of Higher Institutions,* Vol. III. Chicago: University of Chicago Press, 1937.

different names. . . . . Fifty-seven of the fifty-nine institutions (97 per cent) offer one or more occupational curriculums."

To prepare for a vocation is one of the foremost reasons why students go to college. From a study of student choices in this area, Katz and Allport conclude:

> The trend in America towards a more practical college-training is reflected in the statements which students selected as their most important reason for coming to college. Seventy-two per cent of 3,510 Syracuse students, a greater percentage of students than checked any one of nine other reasons, checked the statement, "in order to prepare for a certain vocation."

The vocational motive remained the dominant one for five out of seven groups of these students when they were divided according to the curriculums in which they were majoring. "To prepare for a vocation" was checked as a reason for attending college by 72.1 per cent of 1,080 liberal-arts students; by 83.5 per cent of 304 fine-arts students; by 87.9 per cent of 203 applied-science students; by 75.6 per cent of 161 forestry students; by 77.4 per cent of 161 home-economics students. For a group of 36 graduate students, it tied for first place with "improvement in culture," both being checked by 64.3 per cent. "To prepare for a vocation" was checked by the second largest number of 575 business administration students, 61.2 per cent.[3]

Likewise, the vocational motive is foremost among reasons why students choose particular courses after they enrol in colleges and universities. Weeks undertook to determine why 507 students in ten colleges and universities chose the 20,293 courses in which the total group enrolled. As might have been expected, "to meet a specific requirement" accounted for 8,007, or 39.5 per cent, of the choices. "Occupational interest" accounted for the second largest number of choices, 3,822, or 18.9 per cent. The third leading factor, "subject matter interest," accounted for 2,965 of the choices, or 14.6 per cent. These three combined were responsible for almost three-fourths of all the choices.[4]

II. The Land-Grant College System

Tremendous impetus was given to the development of vocational education in American colleges by the passage in 1862 of the Morrill Act

[3] Daniel Katz and Floyd Henry Allport, *Students' Attitudes*, pp. 10-11. Syracuse, New York: Craftsman Press, Inc., 1931.

[4] Helen Foss Weeks, *Factors Influencing the Choice of Courses by Students in Certain Liberal-Arts Colleges*, pp. 12, 15. Teachers College Contributions to Education, No. 465. New York: Teachers College, Columbia University, 1931.

described. Those selected typify in their offerings the entire scope of occupational training on the college level in this nation. In addition, each of these institutions is making a distinctive contribution in the area of vocational education. These contributions are reflected not only in their curriculums but also in their provisions for vocational guidance and placement, in their instructional techniques, in their integration of vocational and general education, and in the extent to which they are striving to meet the needs of the regions or localities in which they are located.

1. Rochester Athenaeum and Mechanics Institute

The Rochester Athenaeum and Mechanics Institute of Rochester, New York, a privately endowed institution, offers technical and liberal instruction to both day and evening technical students.

A distinctive characteristic of the institute is the adaptation of its program of vocational education to the needs of the city and area in which it is located.

Training is offered in the following fields, all of which are important areas of the industrial life of Rochester, New York: retailing, photography, industrial chemistry, applied art, costume design, mechanics, electricity, food administration, construction, and publishing and printing. Not only are the curriculums of the institute related to industries in its locality but they are also geared to the actual needs for trained personnel in those industries.

The functional character of the occupational training offered at the institute is another distinctive characteristic. This is provided through a work-study co-operative plan described in the bulletin as follows:

> The co-operative plan provides opportunity for practical experience in industrial and business establishments and hospitals in or near Rochester. Students find employment in manufacturing, public service, retailing, and food-service organizations, where they receive practical experience in the field of their choice. Here they supplement their Institute technical training by working in and observing processes operated on a large scale with production equipment. These and other advantages which cannot be duplicated in school extend the experience of the student into the field of his selected work. During the period of employment, through assignments, reports, and other devices, the Institute guides the student's observation and his assimilation of experiences. Continuous education and training results from this constant contact with the faculty. . . . .
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> It is the policy of the managing officials of the various employing organizations to provide employed students with suitable training on the job and

to advance the student in accordance with his ability and with the policy of the employing organization.

Another outstanding feature of the Institute is its individualized program of guidance and general education. Trained counselors and scientific guidance techniques aid each student in determining the occupational field for which he is best adapted. However, this aspect of the program is governed by a more comprehensive objective than merely occupational adjustment.

It strives for "an education for the making of a living and for the living of a life not as two processes but as one." The starting point of this program is the individual himself and his characteristics and needs rather than any preconceived concepts of basic knowledges or life-activity areas. In other words, the policy of the Institute is to adapt its facilities to the needs of students rather than to impose rigid curricular requirements. The bulletin describes this program as follows:

> Anyone utilizing the Institute's courses to aid in becoming vocationally competent is encouraged to extend his plans to include other more general elements. To those who have not as yet found a stable place in our complicated and shifting social and industrial community, the Institute offers a counseling service to aid them in directing their energies in accordance with their abilities and interests toward the establishment of a more satisfactory status and the achievement of more satisfying living.
>
> In addition to helping people find their place in the occupational scheme of things, there is the equally important problem of aiding those who attend the Institute in adjusting their relationships in the broader list of home, social, and civic relationships. In this list, the Institute includes all activities which make for satisfying group living and for recognition of the individual as a constructive citizen.

2. Iowa State College of Agriculture and Mechanic Arts

Iowa State College has been a significant factor in the development of the agriculture and industries of the midwestern United States. The scope of its influence is reflected in the fact that from 1872 through 1941 it conferred 18,542 baccalaureate degrees and 4,090 advanced graduate, professional, or honorary degrees. It has conferred the doctor of philosophy degree upon 638 persons.

The curriculums of Iowa State College illustrate the adaptation of the institution's program to the needs of its area. Vocational preparation is offered through the five divisions of agriculture, engineering,

home economics, science, and veterinary medicine. Collegiate instruction in these divisions is given in a total of sixty-eight departments.

The instructional techniques developed at Iowa State College typify the extent to which vocational education in the land-grant institutions has broken away from the bookish, literary tradition. Instruction in agriculture illustrates this. To quote the 1941-42 catalog:

> The Agricultural Experiment Station is bringing to light better methods of feeding, more remunerative systems of marketing agricultural products, and other improvements. These investigations are studied by the students first hand, and through the system of student employment a number take an active part in carrying on the work of the Experiment Station. This arrangement gives to the students clearer insight into scientific methods and at the same time valuable, practical experience. In addition to laboratory work at the college, students are encouraged to visit various commercial enterprises throughout the state. Farms, orchards, stock shows, and other commercial institutions that have proved themselves of particular merit are visited by students in company with specialists from the college.

A total of twelve credits towards the degree in forestry must be earned in an eight-weeks summer camp between the Freshman and Sophomore years. Silviculture, wood utilization, national forest operations, and forest mensuration are studied in the field under real life conditions. Students in the Department of Dairy Industry learn the manufacture of various milk products by actually participating in making butter, cheese, and ice cream. Similarly, in the home economics division much of the vocational instruction is intensely practical and functional. One of the required courses during the Senior year is home management house which provides for each student six weeks' residence in a model home under faculty supervision. Learning takes place through actual experience in important phases of homemaking and group relationships. Throughout the curriculums of the college one finds many such instances of students actually preparing themselves for their occupational life by carrying on under supervision the major activities of selected vocations.

The terminal courses in agriculture offered by the college give further evidence of its purpose to adapt its facilities to the needs of the youth of its area. A two-year program in applied agriculture is offered young men who desire to farm and who are not qualified for the four-year curriculum. Terminal work is offered in dairy-plant operation and as training for herdsmen. Students in the dairy-plant operation course

are required to engage in practical employment in a commercial dairy plant for at least six months between the four quarters of collegiate instruction. Admission to the program for herdsmen requires only an eighth-grade education. To qualify for a statement showing completion of this program, a student must present evidence of one year of successful work with livestock.

A significant feature of the service of the college to the occupational life of its area is its program of short courses. According to the catalog these courses are conducted for two purposes: "To equip men and women in the same field to meet for a discussion of its mutual problems, and to give them an opportunity to discuss and study their problems with college specialists in the light of the most recent research findings." A total of thirty-seven of these courses ranging from one day to several weeks in length were offered in 1940-41. They were attended by 18,991 persons.

This institution is distinguished for its comprehensive facilities for graduate work. Through this program it performs a great service to other land-grant institutions, providing scores of teachers and scientists for the instructional and research staffs of such institutions throughout the nation.

3. Colorado State College of Agriculture and Mechanic Arts

The program of vocational preparation in the Colorado State College of Agriculture and Mechanic Arts is typical of that of the separately maintained land-grant institutions found throughout the nation. Enrolling a student body of approximately two thousand, the college is located in the center of the West's livestock industry and irrigated agricultural area. As in the case of other institutions described, the occupational curriculums of the college reflect the life and industry of its locale and clientele.

The 1941-42 student information bulletin of the college lists as one of its three major objectives "to contribute to youth's occupational adjustment" and points out that "every student in the college is specializing in a curriculum preparing for a specific occupation." The bulletin states, "A list of the positions now held by graduates from a particular college course of study is a reliable indication of the kind of occupations for which that course prepares students."

Degrees are offered in six divisions characteristic of land-grant colleges: agriculture, engineering, home economics, forestry and range

conservation, science and arts, and veterinary medicine. The curriculum in agriculture serves the particular requirements of the state's farming conditions. For example, in the animal husbandry department emphasis is placed on both livestock generally and on problems related to Colorado's sheep and wool industry. Instruction is offered in wool technology. Work in this field is provided not only for agriculture majors but also for advanced textile students in the home economics division. Thus, aspects of two major curriculums are integrated in behalf of a local need.

Illustrations of such functional tendencies can be cited in other curriculums. In engineering, emphasis is placed on irrigation and hydraulics, areas vital to Colorado's agriculture. Many of the graduates in engineering are trained for employment with irrigation companies and in the construction and operation of reclamation projects. Instruction in forestry and engineering is integrated in a program preparing students for positions in water-shed management. Furthermore, the division of forestry and range conservation serves the Colorado tourist and recreation business by training students in such courses as forest administration, national-park management, recreation improvements, and recreation policy. A special sequence leading to a degree is offered in range management. This prepares men for the scientific supervision and administration of the public range and pasture lands of Colorado's mountains and highlands. In home economics special instruction is offered in high altitude cookery.

In line with nation-wide tendencies, the college is emphasizing a sequence of courses in general education which accompanies its occupational training. One of the three major purposes of the college is "to make youth more at home in the world by developing their capacity for richer experiences and to master the tools essential to successful and useful living." To quote the bulletin:

> While every student in the college . . . . is preparing for a specific occupation, all students are taking certain basic courses and sharing certain experiences. The college's program of general education gives students a broad background for better living, regardless of their vocations. Common to most curriculums of the college are courses in current affairs, government, English composition, English literature, the social sciences, the biological and physical sciences, and physical education. The college library and the Department of Music offer further facilities of this type. Student life on the campus helps develop the student's capacity for group living. Every student who partici-

pates in an activity is acquiring experiences in service and co-operation and is accepting responsibility.

A general orientation course for all Freshmen was established at the institution beginning in the fall of 1942. This course stresses the personal orientation of the student and is designed to assist him to integrate all of his college experiences toward the optimum development of all phases of his personality.

The guidance of its students and placement of its graduates are provided through the college division of student personnel.

4. The California Institute of Technology

The California Institute of Technology at Pasadena is one of a small group of colleges in the United States which offer highly technical and intensive training in engineering and the sciences. The California Institute, to quote its 1941 catalog, "had its real origin in 1891, with the founding of Throop University. At that time the opportunities for obtaining systematic vocational training on the west coast were meager, if they existed at all. It was primarily to meet this need that the honorable Amos G. Throop founded the institution . . . . . to which he later left the bulk of his estate." At first the institute concentrated most of its energies on preparing graduates for teaching positions. Dr. George E. Hale, who went to Pasadena to direct the building of the Mount Wilson Observatory of the Carnegie Institution of Washington, "perceived a new and greater need growing out of changed conditions; and he became enthusiastic over the possibility of developing an institution which would give sound engineering training, but which might in time, with the friendly association of the Mount Wilson Observatory, make southern California a center for distinguished scientific work." As reorganized, the institution was generously endowed with both property and money. In 1920 the name was changed to the California Institute of Technology. In November of 1921 the board of trustees formulated the educational policies which govern the institute's operation today.

The following is the statement of those policies as presented in the bulletin:

> The Institute shall offer two four-year undergraduate courses, one in engineering and one in science. Both of these courses shall lead to the degree of bachelor of science and they shall also possess sufficient similarity to make interchange between them not unduly difficult. . . . .
>
> The four-year undergraduate course in engineering shall be of a general,

fundamental character, with a minimum of specialization in the separate branches of engineering. It shall include an unusually thorough training in the basic sciences of physics, chemistry, and mathematics, and a large proportion of cultural studies. . . . .

Fifth-year courses leading to the degree of master of science shall be offered in the various branches of engineering—for the present in civil, mechanical, electrical, aeronautical, and chemical engineering. In these courses the instruction in basic engineering subjects shall be maintained at the highest efficiency so that the graduates from them may be prepared with especial thoroughness for positions as constructing, designing, operating, and managing engineers.

The four-year undergraduate course in science shall afford, even more fully than is possible in the engineering course, an intensive training in physics, chemistry, and mathematics. In its third and fourth years groups of optional studies shall be included which will permit either some measure of specialization in one of these basic sciences or in geology, paleontology, biology, astrophysics, or in the various branches of engineering. . . . . Its purpose will be to provide a collegiate education which, when followed by one or more years of graduate study, will best train the creative type of scientist or engineer so urgently needed in our educational, governmental, and industrial development, and which will most effectively fit able students for positions in the research and development departments of manufacturing and transportation enterprises.

Fifth-year courses leading to the degree of master of science shall be offered in the sciences of physics, astrophysics, mathematics, chemistry, geology, geophysics, paleontology, and biology. A considerable proportion of the time of these courses shall be devoted to research. These will continue the training for the types of professional positions above referred to.

Research in science and engineering is strongly emphasized at the institute. This not only contributes "to the advancement of science and thus to the intellectual and material welfare of mankind," but also "adds vitality to the educational work of the institute and develops originality and creativeness in its students." The combination of research projects, a large and productive graduate school, and a small and carefully selected undergraduate body makes for a creative atmosphere. The fact that members of the teaching staff are themselves productive scientists and technologists enhances for the student the functional character of the learning process.

Nor is the student's general education neglected:

The California Institute has been a pioneer in recognizing the desirability of providing for a generous amount of instruction in the humanities. The

faculty, in thorough sympathy with this aim, has co-operated by eliminating some of the more specialized technical subjects commonly included in undergraduate courses. As a result it has been found possible to require every student to take, in each of his four undergraduate years, one or more courses of a humanistic character.

An effort is made through an orientation program to provide realistic vocational guidance. Important in this program is a series of lectures which "outline the vocational opportunities which are open to graduates of the Institute and so aid the freshman in making a wise choice of the work for which he is to prepare himself."

A placement office assists both graduates and undergraduates to find employment.

IV. Common Elements in Vocational Programs

This review of programs of vocational preparation in four American colleges points to certain characteristics which these colleges all share. These elements reflect trends in occupational training on the college level throughout the United States.

The first of these characteristics is recognition of the needs of the locality in which the institution is located and the adaptation of its program to serve those needs. The curriculums of the Rochester Athenaeum and Mechanics Institute mirror the institutions and industries of its city. Many of the major courses of the Colorado State College are specifically designed to produce technically trained personnel for such activities of its region as water use and conservation, the livestock industry, and the recreational attractions of its mountain empire. Of course, in such institutions as Iowa State College and the California Institute of Technology much emphasis in instruction and research is upon problems of universal application. However, both schools have directed their energies towards meeting the needs of their immediate localities. The California Institute carries on researches in co-operation with such agencies of its state as the petroleum and aircraft manufacturing industries, the Metropolitan Water District of Southern California, and the Los Angeles County Flood Control District. The Iowa State College is distinguished for its contributions, through both research and instruction, to the development of the agriculture of its grain belt and the enrichment of rural life of the Midwest. These illustrations are samplings of a nation-wide tendency for higher institutions to gear their research and vocational instruction to conditions of their community, state, or region.

A second common factor is the tendency for more practical techniques to supplement exclusively bookish, academic instruction. In this regard, the land-grant institutions have gone through an interesting cycle. A professor of agriculture in the early days of Iowa State College wrote, "I began to tell the students what I knew about farming. It did not take me long to run short of material and then I began to consult the library. I might as well have looked for cranberries on the Rocky Mountains as for material for teaching agriculture in that library."[7] He then tells of having to take his students out into the fields to learn what they could of agriculture in view of the lack of materials in books, bulletins, and periodicals. During the first decade of the land-grant institutions much instruction was of this practical, nonacademic type. However, as the experiment stations expanded the areas of knowledge in the land-grant college fields, more and more material became available in books and libraries. Instruction became more academic and traditional even in such practical courses as agriculture, engineering, and home economics. The pendulum is now swinging in the opposite direction. It is becoming increasingly recognized that students learn best by participating in the process to be learned. Consequently, we find colleges today making increasing use of co-operative work-study programs, of excursion and field trips, and of community surveys.

The third aspect of occupational-adjustment programs which is shared by institutions all over the nation is the expansion of facilities for vocational guidance of students and the placement of graduates in jobs. Increasing numbers of institutions are employing trained vocational counselors and making provision to give their students intelligence, achievement, aptitude, and interest tests. The colleges are thereby recognizing individual differences in students and the basic importance of motivation in the learning process. Through graduate placement bureaus and professional placement officers, higher institutions are assuming a definite responsibility for aiding their graduates to secure jobs.

Finally, in spite of growing attention to vocational preparation, the colleges today are giving strong emphasis to programs of general education as well. In fact, the dualism of vocational training and general education as separate areas is giving way to the organismic concept expressed in the Rochester Institute's goal of "education for the making of a living and for the living of a life, not as two processes but as one."

[7] Works and Morgan, *op. cit.*, p. 27.

That pressure for general education comes from without the academic walls as well as from within is reflected in a statement in the Colorado State College's bulletin, "Employers of college graduates are interested not only in their technical training but also in the personal qualifications, their character, and their scholarship . . . . . Students should strive, therefore, for the best possible personality development." In its abandonment of some of its technical courses in favor of instruction in the humanities, the California Institute of Technology recognizes the importance of living a life as well as making a living.

CHAPTER XXVI

VOCATIONAL EDUCATION IN UNIVERSITIES

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I. JOB TRAINING IN THE UNIVERSITIES

From their very origin to the present time, the universities have been concerned with preparing their students for vocations. The medieval university provided the training requisite for following the "traditional trinity" of professions—theology, law, and medicine. The American universities which grew out of the earliest colonial colleges were founded to furnish the new land with a learned ministry. Our universities today offer preparation for a wide variety of occupations, and, as new needs arise, expand their curriculums to include new vocational courses to meet them.

The foremost aim in the establishing of the first colleges in America was to provide the colonies with an educated ministry. Harvard and Yale, for example, were virtual copies of the colleges of England's Oxford and Cambridge Universities where "theology remained the predominant study, and the required instruction . . . . was largely aimed at training clergymen who would be well versed in Greek, Latin, Hebrew, and the art of disputation so that they could go forth and defend their church's doctrines against all assailants."[1] With the establishment of what are now Columbia University and the University of Pennsylvania, in 1754 and 1755, respectively, other occupational aims were recognized. Columbia included among its earliest stated objectives the instruction of youth in surveying, navigation, husbandry, commerce, government, and manufacture. Reverend William Smith, the first provost of the University of Pennsylvania, committed the institu-

[1] R. Freeman Butts, *The College Charts Its Course*, p. 44. New York: McGraw-Hill Book Co., Inc., 1939.

tion to carrying on "all the branches and species of education . . . . that can be conceived necessary for any community whether in the learned professions, in merchandise, in the mechanic arts, or inferior callings."[2]

However, as was the case with the American colleges, the primary impetus to vocational education as it exists in the nation's universities today was the establishment of the land-grant institutions. The funds provided by the Morrill Act were in some states bestowed upon already existing state universities with the provision that they offer the education in "agriculture and mechanic arts" as specified by the act. This laid the foundation for the impressive structure of many of the great state universities of the present time. One of the first universities stimulated by the land-grant act had a still different origin. It was founded by generous endowments from the fortune of Ezra Cornell who intended to foster higher education in the areas of agriculture and industry in which his own occupational life had been largely spent. The institution received land-grant funds in addition. In 1868 it opened its doors under the able leadership of Andrew Dickson White. At the inauguration exercises for President White, the university's founder said, "I hope we have laid the foundation of an institution which shall combine practical with liberal education, which shall fit the youth of our country for the professions, the farms, the mines, the manufactories, for the investigations of science, and for mastering all the practical questions of life with success and honor."[3] Cornell University today reflects its faithful adherence to these objectives in the multiplicity of its occupational courses. In general, the state universities which were endowed with resources provided by the Morrill Act have become unique American institutions in the tremendous scope of their occupational curriculums and in their continuous adaptation to needs of their regions and the nation as a whole.

It is no less significant that many American universities established by private fortunes have likewise been dedicated to the aim of occupational training. The legal documents authorizing the educational activity of many of these institutions frankly declare their occupational objectives.

The multiplicity of vocational courses offered in the modern American university is indicated by the North Central Association's survey

[2] Quoted in Butts, *op. cit.*, p. 72.

[3] Butts, *op. cit.*, pp. 186-87.

of fifty-nine higher institutions in 1931-32.[4] The survey revealed that these colleges and universities provided 143 discreet curriculums of four or more years in length which had a clearly stated occupational purpose.

II. Controversies Over Vocationalism

By no means has this multiplication of vocational curriculums in the American university been accepted as an unmitigated blessing. In fact, one of the sharpest controversies in American education today concerns the true purpose of the university. The apostles of the so-called New Humanism deplore the vocationalism of higher institutions. They maintain that this violates the true purpose of a university, which should be dedicated to the intellectual virtues—training the mind and seeking new truth through research. On the other hand, the experimentalists insist that the university is not now and never has been limited to such a narrow ideal. They discard the dualism of vocational training and cultural education and point out that, if properly conceived, courses assigned to either category make genuine contributions to the other. They hold of the universities that "there is no intellectual service too undignified for them to perform."

Two energetic opponents of vocationalism in the university are Abraham Flexner, former director of the Institute for Advanced Study at Princeton University, and Robert M. Hutchins, president of the University of Chicago. A considerable stir was caused in educational circles in 1930 by the publication of Dr. Flexner's book, *Universities: American, English, German.* In it the author takes the American universities to task for their absorption with training for jobs. He says:

> The pursuit of science and scholarship belongs to the university. What else belongs there? Assuredly neither secondary, technical, vocational, nor popular education. Of course, these are important; of course, society must create appropriate agencies to deal with them; but they must not be permitted to distract the university.
>
> . . . . . .
>
> [Modern state universities have to make themselves "useful"—become "public service" institutions—]in order to justify themselves to the man in the street or on the farm, since income depends on appropriations of the state legislature, thus large numbers—some resident, others nonresident—get the

[4] Melvin E. Haggerty, *The Educational Problem,* pp. 18-19. North Central Association of Secondary Schools and Colleges, *The Evaluation of Higher Institutions,* Vol. III. Chicago: University of Chicago Press, 1937.

kind of information or training, which they need or think they need, and from which they feel themselves competent to profit—though, as I have urged and shall continue to urge, this sort of thing does not deserve to be called college or university education at all . . . . . [The category of "service functions" includes] certain "schools" or "departments" of a vocational character—schools of domestic science or household arts, schools of journalism, business, library science or librarianship, optometry, hotel management, etc., none of which belongs within a university.[5]

President Hutchins is equally unequivocal in his denunciation of occupational training in the university, as shown by the following statements:

Vocationalism, then, leads to triviality and isolation. It debases the course of study and the staff. It deprives the university of its only excuse for existence, which is to provide a haven where the search for truth may go on unhampered by utility or pressure for "results." I do not need to tell you how hard it is in these times and in this country to keep this characteristic activity of a university alive. . . . .

Vocationalism is not merely bad for the universities; it is bad also for the professions. . . . . Every profession requires for its continuous development the existence of centers of creative thought. To the extent to which universities and professional schools abandon creative thought and degenerate into trade schools the profession must degenerate into a trade. . . . .

I should also contend that it cannot accomplish the only purpose it can have, namely, the preparation of the student for the practice of his life work. It is, in short, bad for the student as well as for the universities and the professions. . . . .

My contention is that the tricks of the trade cannot be learned in a university, and that if they can be they should not be. They cannot be learned in a university because they get out of date and new tricks take their place, because the teachers get out of date and cannot keep up with current tricks, and because tricks can be learned only in the actual situation in which they can be employed. . . . .

All that can be learned in a university is the general principles, the fundamental propositions, the theory of any discipline.[6]

In contrast with these convictions of Dr. Flexner and President Hutchins, we find leading university educators today defending vigorously the occupational training which occupies such an impressive place

[5] Abraham Flexner, *Universities: American, English, German,* pp. 27, 28, 63, 70, 71, 130, 131, 152. New York: Oxford University Press, 1930.

[6] Robert Maynard Hutchins, *The Higher Learning in America,* pp. 43-48. New Haven, Connecticut: Yale University Press, 1936.

in the curriculum and objectives of modern higher institutions. Edmund E. Day, president of Cornell University, declares:

Recent years have witnessed an impressive development of vocational education in this country. In academic circles this development has occasioned a great deal of uneasiness. In some quarters there is open contempt for education that is vocationally motivated. It is held that vocational education is inferior education; a form of debased, even prostituted education. I do not share these views. After all, formal education, even in its upper reaches, has always been, at least in part, vocational; and in a perfectly legitimate sense, professional education, which has been consistently in good repute in academic circles, is vocational education. Moreover, there is something essentially sound and fundamentally natural about vocational interests on the part of the learner. . . . .

The implications of this for education are clear. Formal education has obligations to discharge in fitting the learner for a subsequent effective and rewarding working career. This means that education which is terminal, at whatever level, should provide suitable vocational training. It perhaps should be added that this vocational training should not be narrowly conceived. A good deal of the vocational education we have had is subject to adverse comment in this respect. Vocational education to be sound and adequate must comprehend a great deal more than technical training for a particular job.[7]

Dean Wallace Brett Donham, of Harvard University's Graduate School of Business, defends vocational courses in the university in these terms:

We have heard much talk about the values of liberal education as preparation for life rather than for making a living; some of it wise, much of it rationalization and a defense of existing conditions. Too often we overlook the cultural value of being able to get a job and keep it. The collapse of the old Germany was hastened by the inability of university-trained men to fit themselves into the economic life of the community. The long procession of college-trained men who have sought my help in getting jobs in the past ten years leaves the strong impression that in most instances cultural values fly out of the window when men cannot earn a living. The men to whom my sympathy goes out are the liberal-arts graduates who stop their training at the end of college, in no sense prepared to make a living. At least they should be prepared to work with other men. . . . .

The sharp contrast between liberal education and vocational education is historically and contemporaneously untrue. . . . . My own alma mater, Harvard, not only trained men for the ministry in its early days, but provided a severe intellectual discipline which, under the simpler conditions of those

[7] Edmund E. Day, "Issues Confronting Higher and Professional Education," *Journal of Higher Education*, XIII (February, 1942), 61-62.

days, qualified men to enter apprenticeships in the counting house, at the bar, in medicine, and in politics. During the intervening years Harvard College was a training school for teachers and gave many men effective training for apprenticeship in affairs. Today it trains many secondary-school teachers, takes other men through the first part of their training for teaching and research in our universities and colleges, gives premedical training, and in all major sciences gets men well started toward jobs in industry. Such students think of their work in vocational terms.[8]

III. Representative University Vocational Programs

American universities share a characteristic pattern of curriculums preparing for occupations. One of two vocational purposes is generally served by undergraduate instruction: complete preparation for an occupation within the four years required for the bachelor's degree, or preprofessional training which lays the foundations for graduate or professional work. Graduate and professional schools supplement the undergraduate instruction and offer education of an unmistakably vocational character. The majority of earners of graduate degrees enter the occupation of teaching, many of them in higher education where advanced degrees are practically an indispensable occupational qualification. Others prepare for careers in research, in the employ of educational institutions, private foundations, governmental agencies, and industries. The professional schools, of course, are devoted to preparing students for successful entry upon and practice of specified vocations.

In spite of such general similarities, universities differ widely in their administrative arrangements for occupational training, in the scope of their job preparation, in degree requirements, and in special vocational services. The universities selected for more detailed description here reflect both these points of similarity and certain institutional differences. Included are a university which evolved from a colonial college, two institutions established outright by philanthropic gifts, one state university, and one university which has established vocational courses peculiarly adapted to the needs of the metropolitan area in which it is located. Each institution is distinguished for the high quality of its undergraduate, graduate, and professional curriculums.

1. Harvard University

Harvard University's concern with educating men for jobs was stressed by Dean Donham of the Graduate School of Business Admin-

[8] Wallace Brett Donham, "The College in a Changing World," *Harper's Magazine*, CLXXXIV (January, 1942), 137-41.

istration in statements already quoted. Founded to perpetuate a "learned ministry" for the colony of Massachusetts, this earliest of American higher institutions still devotes much of its efforts to vocational preparation.

The occupational aim characterizes the work of Harvard College, which was the whole of the institution until the establishment of professorships in medicine in 1782. According to the 1941 catalog, instruction in the college is "given under a plan which aims to secure great freedom of opportunity for those who wish to obtain a liberal education in the arts and sciences, whether as the end of their academic training or as a basis for further study in theology, law, medicine, dentistry, education, business administration, or the various scientific professions, such as engineering, applied biology, architecture, and landscape architecture."[9]

This statement suggests both the preprofessional character of the college and the scope of the professional and graduate schools of the university. Thirteen divisions of the university fall in these categories:

(1) The Graduate School of Arts and Sciences.—The occupational character of this school is indicated by the statement in the catalog: "Any person on whom the University confers the degree of doctor of philosophy is thereby recognized as qualified to give instruction to candidates for this degree in the subject in which he has taken the degree and to advance knowledge in that subject by his own investigation."

(2) Lucius W. Nieman Fellowships in Journalism.—Although the university offers no professional courses in journalism, these fellowships aim "to promote and elevate the standards of journalism in the United States and educate persons deemed especially qualified for journalism."

(3) The Graduate School of Engineering.—Begun as the Lawrence Scientific School in 1847, this school trains for "any of the recognized branches of engineering," more specifically for mechanical, aeronautical, electrical, communication, civil, and sanitary engineering, physical metallurgy, and engineering administration.

(4) The Divinity School.

(5) The Law School.—In addition to training students for the practice of the legal profession this school provides for the "training of teachers of law, and the investigation of the problems of legal adjustment of human relations and how to meet them effectively."

(6) The Medical School.

[9] This quotation and other facts and statements herein about Harvard University are to be found in *Harvard University Catalog*, 1941.

(7) The School of Dental Medicine.

(8) The Dental School.

(9) The School of Public Health.—This school is concerned with training men for public health work. Students may thus "prepare themselves for careers in teaching, administrative, field, or laboratory positions."

(10) The Graduate School of Business Administration.—The functional occupational direction of much instruction in modern American universities is realistically illustrated in the catalog's description of this school. It was established because "the growing complexity of business and the trend toward larger business units had made it difficult for an apprentice to learn the whole of any process or to see clearly the relationship of his work to the other functions of an enterprise. . . ." and "the increasing number of college graduates seeking careers in business rather than the older professions."

The aim of the school "is to train young men for positions of responsibility in private business or the business of government. . . . . The liberal-arts graduate planning to enter business immediately upon graduation from college ordinarily finds himself without specific training for a business career and unable to decide intelligently in what branch of business activity or public service his interests lie. Graduate training in business administration assists him in overcoming both these difficulties. . . . . Without this basis there is danger of a man's drifting aimlessly from one position to another for some time before he discovers what type of work interests him and for what he is best suited."

(11) The Faculty of Design.—Included under this faculty are the departments of architecture, landscape architecture, and regional planning.

(12) The Graduate School of Education.—The teachers, administrators, and workers in special service fields trained in this school are aided in finding suitable educational positions by a placement service described in the catalog.

(13) The Graduate School of Public Administration.—"Through research into the fields of public policy and through training in the social sciences the school seeks to equip men for public service. . . . .

"The faculty . . . . offers its assistance to students of the school in securing positions in the public service for which they are best fitted. . . . . Opportunities for employment exist in the national, state, and local governments, in research agencies, and in a number of other organizations dealing with various aspects of public administration."

It is interesting to note also that instruction in forestry and related aspects of agriculture is offered at the Harvard Forest.

2. The University of Chicago

The organization for instruction at the University of Chicago con-

sists of the college, four divisions, and six professional schools. The college gives the courses of the student's first two years (traditionally considered the Freshman and Sophomore). Its curriculum is designed to provide a general education for all students. To complete the requirements of the college, the student must pass a comprehensive examination over four basic areas of knowledge: the biological sciences, the humanities, the physical sciences, and the social sciences. Introductory general courses are offered in all four areas, and these courses constitute the core of instruction. A sensation was created in the academic world when President Robert M. Hutchins announced in 1942 that the University of Chicago would award the bachelor's degree to students who successfully fulfilled the requirements of the college. Thus, the university cut in half the length of time traditionally required for the undergraduate degree.

In spite of the general nature of the curriculum of the college, the vocational objective is not excluded. The 1941-42 catalog announces that "each student in the college is assigned for educational guidance to a member of the faculty who acts as an adviser . . . . . It is the function of the adviser to counsel a student concerning the courses he should pursue with a view to fulfilling the requirements of the particular division or professional school of his vocational choice."[10] It is further stated that the Board of Vocational Guidance and Placement has prepared a series of guidance bulletins on vocational opportunities from the major fields of study of the university.

The catalog makes it clear that the divisions offer training of an occupational character in four respects. The preprofessional character of some courses provides a background for further work by the student in one of the professional schools. Research is frequently mentioned as an occupational outlet for graduates from the divisions. Most departments in each division stress the opportunities in teaching for their graduates, and professional courses in education are recommended to supplement the subject-matter emphasis. Finally, many of the departments offer complete occupational preparation for careers in industry, government service, and social agencies. Types of job training offered in the divisions are illustrated in the following catalog presentations of several selected departments:

[10] Facts and quotations in this section on the University of Chicago are taken from *Announcements of the University of Chicago* (The Colleges and the Divisions for the Sessions of 1941-42). Chicago: University of Chicago Press, 1941.

(1) In the Division of Biological Sciences.—Stress is laid on premedical preparation in the departments of anatomy and of bacteriology and parasitology. The department of home economics and household administration offers work of value to "those whose interest, immediate or remote, is in the administration of a home." This department "takes an active part in assisting students to secure appointments in positions for which their training qualifies them." The programs of the department of nursing education aim to prepare students for "teaching in schools of nursing," "positions as departmental supervisors and clinical instructors" in hospitals, "directors or deans of nursing schools," and as "supervisors in . . . . public health nursing services."

(2) In the Division of the Humanities.—Among the "chief aims" listed for the department of art is the training of "art teachers" and "museum workers." In the department of Greek language and literature "the work . . . . is planned with the purpose of producing good teachers of Greek and good research scholars in Greek."

(3) In the Division of Physical Sciences.—The department of chemistry "prepares students (*a*) for positions requiring training for original investigations in connection with academic, industrial, or government work; (*b*) for teaching. . . . (*c*) for positions in the industries or government service; and (*d*) for the application of chemistry to other fields. . . . . The objectives of the courses are to prepare the student to undertake intelligently all kinds of work of a chemical nature." One of the aims of the department of geography is to "provide part of the training for students preparing for business careers."

(4) The Division of Social Sciences.—The department of political science gives courses designed to "provide special training for a small but growing number of positions in the higher civil service or in quasi-governmental work conducted by unofficial agencies." The work in international relations "is adequate to fit candidates for professional service such as the foreign service under the United States Department of State and the Foreign Commercial Service under the Department of Commerce."

The six professional schools of the University of Chicago are those of divinity, law, business, medicine, and social service administration, and the graduate library school. The following excerpts from the catalog description of three of these schools indicate the occupational character of their courses.

(1) School of Business.—Its purpose is "(*a*) to provide basic training for men and women who look forward to positions of management in business; (*b*) to provide training for those who are preparing for specialized tasks which require the ability to use refined techniques of a character which may be appropriately developed at the university level—accounting,

statistics, market and investment analysis, secretarial work; and (*c*) .... for men and women who plan to teach business subjects."

(2) The Law School.—The school is "designed not only to prepare students for professional activities such as advocates and counselors but also to prepare them for judicial, legislative, and administrative positions."

(3) The School of Social Service Administration.—The two objectives of this school are (*a*) "to provide professional education .... for those who are planning to enter the public-welfare services or to work with private social service agencies. The university maintains special field-work units for social service students in various family-welfare and child-welfare agencies," and (*b*) "to provide opportunities for those who are looking forward to social research."

3. Stanford University

The founding grant of Stanford University provided for "mechanical institutes," "laboratories," "the study of agriculture in all its branches," "mechanical training," and "the studies and exercises directed to the cultivation and enlargement of the mind; its object, to qualify students for personal success and direct usefulness."[11]

That its founders' concern with preparing students for jobs has not been neglected in the development of Stanford University is suggested by the following statement in its 1940-41 register:

> University students gain more from their college experience if they have a reasonably definite vocational or life objective. .... Members of the staffs of the offices of the dean of men and the dean of women act as counselors for students who are undecided concerning their vocations. Certain tests are available to help reveal a student's capabilities, while an extensive file of printed material and contacts maintained with outside vocational advisers help provide the student with current vocational information. The selection of a major field of study is closely related to a student's vocational goal. With this in mind, a series of lectures by department heads has been given during the past years outlining the vocational possibilities for which training is given. A concise bulletin, *University Training and Vocational Outlets*, was recently printed to give a complete picture of the University's offerings by schools and the vocations for which preparation is given.

The first two years' work at the university is organized in the lower division. Its object is "to introduce the student to fundamental fields of human interest." Students are required to select courses from each of three groups: arts and letters, natural sciences and mathematics, and

[11] This and the other facts and quotations in this section are from *Fiftieth Annual Register*, 1940-41. Stanford University, California.

social sciences. The work of the upper division, organized into eleven separate schools, is more specifically devoted to occupational training. The schools are biological sciences, graduate school of business, school of education, engineering (including civil, electrical, mechanical, and mining and military science and tactics), health, law, letters, medicine, nursing, physical sciences, and social sciences (including journalism).

The university maintains an appointment service, the purpose of which is "to assist students and graduates of the university to obtain permanent employment or promotion in the kind of work for which they have prepared themselves."

4. The University of California

Significant differences can be noted in the programs of occupational training found in such private universities as Chicago, Stanford, and Harvard, and those in public institutions of the type of Ohio State University and the University of California. The private universities have maintained the cultural or general integrity of their undergraduate curriculums; little instruction of a practical vocational character is to be found in the first two years. The state universities, by contrast, permit some specialization in an occupational field during the first semester or quarter in college. The vocational training in the private universities is largely limited to fields which are recognized as professional or which have a background of systematic knowledge and are accepted as disciplines sufficiently profound to justify study on the university level. On the other hand, the state universities have established degree-granting curriculums in newer and less authentically academic fields, such as veterinary medicine and optometry. Whereas the private institutions are sensitive to the restrictions imposed by academic tradition, the state universities reflect an awareness of the needs of the states and regions which they are intended primarily to serve.

The University of California is noted for contributions through research of a universal and fundamental character. At the same time, the university illustrates the service concept in the practical nature of its training for occupations. As the land-grant institution for the state of California, the university receives the funds provided by the Morrill Act and subsequent legislation, state and federal. It is thus obliged to offer the types of instruction for which this revenue is provided as well as the traditional courses of a university. The state of California is the second largest geographically and the fifth largest in population. Its

industries and agriculture are among the most diversified of any state in the union. In order to meet more efficiently the varied needs imposed by these conditions, the university, which is located at Berkeley, has branches at Los Angeles, Riverside, and Davis.

The six undergraduate colleges of the university include the College of Letters and Science and five colleges of applied science. These are the Colleges of Agriculture (including forestry, home economics, and landscape design), Commerce (which provides "broad preparation for business," according to the official register),[12] Chemistry, Engineering, and Mining.

The College of Agriculture located at Davis offers two-year terminal courses in home economics and agriculture. These are designed to serve the needs of students who do not find it convenient to pursue four-year courses or who lack the aptitude for them, but who could benefit from applied vocational training of a "subprofessional" character.

Sixteen separate professional curriculums offered by the university promote training for occupations in the following areas: architecture, education, jurisprudence, medicine, librarianship, nursing, dentistry, pharmacy, public health, social welfare, nursing education, public health nursing, hospital dietetics, optometry, architecture, and applied art.

5. The University College of Northwestern University

Northwestern University offers training for occupational opportunities in its neighboring metropolis through its University College located in the Montgomery Ward Memorial Building in downtown Chicago. Instruction is given through the Medill School of Journalism, the School of Commerce, and the following divisions: Languages and Art, Natural Sciences, the School of Education, the School of Speech, Social Sciences, Correlated Studies, and a first-year engineering curriculum.

The university bulletin, *Opportunities for Professional Training* (1939), describes the work of the University College and the clientele which it serves.

The present decade has witnessed increased prestige and growing social importance for the vocations of government employees, social workers, and teachers. Ranks of professional workers are rapidly increasing and society today is placing more and more responsibility upon its public employees. As

[12] *University of California Register*, 1939-40 (with Announcements for 1940-41), Vol. I, 1940.

a result, there have never before been so many opportunites for trained, professional persons to enter public service, or for those already in these fields to advance in professional prestige and accomplishment, as there now are.

Recognizing this need and opportunity, the University College of Northwestern University has assembled a noted faculty for the teaching of significant courses in the professional fields of education, social work, and public service. These courses offer particular advantages to persons now actively employed who desire self-improvement by means of evening study.

The University College of Northwestern University . . . . is maintained as a cultural and educational center for those persons who wish to indulge in serious study during their marginal time. It offers a program . . . . specifically designed from the adult point of view, with classes conveniently offered during late afternoon and evening hours.

According to this bulletin, the School of Commerce and the Medill School of Journalism, through evening study, furnish "a way of acquiring the specialized training you must have for your development and advancement." Specific courses offered in these departments include accounting, advertising, business law, finance and banking, insurance, marketing, sales retailing, real estate, professional fiction, and radio dramatic writing.

Professional public service courses prepare "for civil service examinations, or to acquire professional status with one or more of the large government agencies."

In the field of social work the University College co-operates with forty public and private agencies in Chicago to make possible complete accredited field work in actual social problem situations.

Courses in the School of Education provide "complete professional training for the prospective teacher or teacher in service."

In spite of the emphasis in the University College upon education for adults, the important area of vocational guidance is not neglected. The 1941-42 *Announcements of the University College* describes a counseling service which "can be of real assistance in planning a program which will facilitate the realization of educational objectives in harmony with vocational plans."

The program of vocational education provided through the University College reflects sensitivity to opportunities for community services and a readiness to improvise new and unconventional agencies, if necessary, to meet them. A university which offers occupational training for adults in an office building in a metropolitan business section is a far cry from the tradition-bound institutions of a few generations ago.

It is a gratifying illustration of the dynamic and functional character of higher education in modern America.

IV. The Universities and the War

The immediate and unstinted response of America's universities to the needs of the nation at war re-emphasizes their vital role in the preservation of democracy. The spirit of this response is reflected in the 1940-41 presidential report of James Bryant Conant of Harvard University, in which he wrote:

> By December 11 the Congress of the United States had committed the country to war with three great nations—Germany, Japan and Italy. . . . . In every university the authorities were quick to pledge all the resources of the institution to the war effort. Until the war is won, the requirements of the nation will take precedence over all other considerations.

President Robert Maynard Hutchins of the University of Chicago likewise pledged his institution to the service of the Nation. In his 1941 presidential report he said, "The University is eager to help in national defense. It is proud that its science faculties are qualified to help in so many different ways. The plant and personnel are entirely at the service of the government."

The universities over the entire nation showed a similar determination to devote their resources and energies to the cause of victory over the Axis nations.

Through the medium of vocational education, the universities are playing a major role in the victory program. Already courses in engineering, sciences, medicine, veterinary medicine, and nursing were preparing men and women for vital occupations in war industries, in civilian war work, and in the armed services. Because of an acute shortage of trained personnel in all these fields, the universities literally overnight transformed their curriculums from a nine- to a twelve-months' program in order to shorten the period of training by at least one whole year. Faculties normally employed for the nine-months' school year volunteered their services on a twelve-month basis without extra compensation. A special Stanford University bulletin describing the accelerated program of the wartime summer session declares, "This is not a time for vacations, but one for work. All who can do so should advance their preparation for service as rapidly as possible since the need for our country for trained men and women has never been more urgent. The high-school graduate should start his university career in June."

A multiplicity of special vocational courses has been added to the universities' curriculums in response to war needs. The engineering, science, and management defense-training courses and the vocational defense-training program, both sponsored by the United States Office of Education, were established in universities throughout the nation. These consisted largely of short-time training in specific skills and duties; they were designed to enlist and prepare for jobs in war industries, the government, and the armed services recent high-school graduates, unemployed out-of-school youth, and adults, many of whom required only refresher courses. Through these programs the universities have in a few months supplied thousands of trained workers in areas vital to the success of America's war effort.

American higher education has shattered all precedents in the speed, efficiency, and totality with which its entire resources have been converted to war service or another type of vocational education. The challenge of the current crisis has proved the mettle of the universities as champions of freedom.

SECTION VI

CONCLUSION

CHAPTER XXVII

THE DYNAMICS OF VOCATIONAL EDUCATION

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Education happens to people, particular people, you and me. It happens in some place, at some time, often with the help of somebody else. *Vocational* education happens when a particular person (pupil) is learning a specific occupational act or fact (trade, course of study), in a selected work environment (school, factory, office, farm, home), under the guidance of a skilled worker (teacher), at a definite, appropriate time (grade or unit), and in a prescribed manner (method). This Yearbook tells who these people are, or should be, what they should learn or teach, and when, where, and how they should do it. This final chapter is an attempt to sum up the views of twenty-eight contributors, to draw some guarded general conclusions, and to provide a modicum of editorial comment. All this answers the inevitable questions: Who? What? Where? When? How?

Patently, vocational education is a function, a resultant of technical, economic, and social forces. Throughout the book these forces have been described or implied. While they do not justify prophecies, they do indicate trends. They serve to point up the answers to the foregoing basic questions. They are the stuff out of which vocational education draws its substance.

I. THE PARTICULARS OF VOCATIONAL EDUCATION

1. Who?

(*a*) *The Classes and the Masses.* "Everybody should have vocational education." "Vocational education is for dumbbells." "Everyone should learn to use his hands." "Vocational education neglects culture." Obviously, these loose generalizations are nonsense. Vocational education is not a wassail bowl from which each member of the multitude ladles out his fill. Nor is vocational education a therapeutic for sick minds. Nor is it a training in gymnastics. Vocational education

is learning how to work—for all those who can work and need to be taught to work. In this sense, it is for the masses *and* for the classes. In this sense, it is for everybody, but for *each* body to the extent, in the place, under the auspices, and during the time that he can benefit from it.

(*b*) *Workers in Literature.* In their quest for "life," the source of desire, the roots of existence, the fundamentals of character, the novelist and the playwright often find their themes in vocations. The story of a life may very well be the story of an occupation. Again, biography implies a career. In recent years the "doctor books" have had their vogue. The war has provided journalists with an opportunity to tell their own life stories and at the same time to comment upon life at large. The exciting adventures of sailors, soldiers, and explorers are familiar subjects of composition. The less eventful careers of teachers, lawyers, and ministers have had their share of literary treatment. The more humble worker, the baker, the stenographer, the mechanic, the farmer, the fisherman, have all had their day in the pages of books. Sometimes the more prominent writers have put whole industries into literature, as witness Arnold Bennett's novelization of the management of a luxurious London hotel in his *Imperial Palace.*[1]

(*c*) *Philosophy of Vocational Education.* It would not be desirable to formulate a philosophy of vocational education differing in important respects from philosophies of education in general. No such attempt will be made. However, if the generally recognized schools of philosophy agree upon any one point that has a special bearing upon vocational education, such agreement has special significance. After summarizing the most important tenets of experimentalist, realist, idealist, Aristotelian, and Catholic educational philosophy, Brubacher notes that:

> On one ground or another each holds that the individual is the primary end of education and that the claims of society or the state are to be subordinated to him. This is perhaps the most striking instance of unanimity of viewpoint among the diverse philosophies of education presented in this volume.[2]

[1] Mary Rebecca Lingenfelter, *Vocations in Fiction: An Annotated Bibliography.* Chicago: American Library Association, 1938.

[2] *Philosophies of Education,* p. 315. Forty-first Yearbook, Part I, of the National Society for the Study of Education. Bloomington, Illinois: Public School Publishing Company, 1942.

True, vocational education cannot lay claim to any unique recognition of the importance of the individual, but it can point out that its program is based upon such recognition. The interests, aptitudes, and capacities of every child are to be developed to their fullest extent to the end that all people who can work may learn to work effectively. This implies the widest possible spread of opportunities for vocational education and also for a thoroughgoing system of vocational guidance.

Such a philosophy is inherent in the programs described in this book. Physically and mentally handicapped children must receive vocational education because their personalities are respected by all other, better-endowed personalities. Vocational education covers the entire sweep of occupations from those requiring a minimum of skill to those demanding the highest possible professional qualifications. And for those who have become enmeshed in the legal net, vocational education is indicated to the end that they may redeem their personalities and take their places in normal society.

Vocational education is for all who can learn to work.

(*d*) *Youth Wants and Must Have Employment.* The capacity to work does not necessarily imply the ability to *find* work. Certainly society does not guarantee interesting or even suitable work. Yet, "the most fundamental problem of youth is precisely the problem of full employment under peacetime conditions for all employable workers." [3] Moreover, the driving impulse of adolescence is to sever the silver cord, to seem not to want support even when they really do want it. Hence, the "revolt" of youth. Work symbolizes independence, so a job is imperative, for the wealthy as well as for the poor.[4]

(*e*) *Who Should Receive Vocational Education?* Everyone who can work.

2. What?

The content of vocational education is determined by the interests and capacities of the potential learners and by the demands of the people who pay for the product of vocational ability.

(*a*) *The Potentialities of the Individual.* To reveal these potentialities is one of the tasks of elementary and early secondary education. It is the specific task of vocational guidance. Patently, if every

[3] American Youth Commission, *Youth and the Future,* p. 72. Washington: American Council on Education, 1942.

[4] *Ibid.,* p. 50.

individual were set to learn the vocation in which he was most interested, society would be plagued with a plethora of unwanted movie actors, for instance. Interests must be tempered by necessity and opportunity. The vocational guidance program must reveal not only a single dominant interest but many interests. It must even "create" interests. The desires of the individual must be gaited to desires of all other individuals.

(*b*) *The World's Work.* Another task assumed by the vocational-guidance program is to paint for the individual a large-scale picture of the world's work so that, on the one hand, he may choose what he likes and, on the other hand, reconcile himself, if necessary, to the necessity of doing something that he does not like so well. The task of the vocational-education administrator is to build a vocational curriculum that will include those vocations that need to be taught to provide the world with the services it demands.

(*c*) *Types of Vocational Education.* Traditionally, vocational education has been industrial, agricultural, commercial, and homemaking. These have been convenient classifications but, as has been made evident in this Yearbook, they have been misleading and, as technologies change, will ultimately become untenable. Such areas as mining, maritime, and forestry occupations have been ignored. The injection of machinery into farming has produced an industrial-agricultural occupation. Whatever the names of the occupation, the actual operations and the latest technical knowledge must be taught. This information is made available through continuous surveys and analyses conducted jointly by boards of education and advisory boards of employers and employees.

(*d*) *Research and Evaluation.* In its more systematic and refined aspects, the gathering of such information becomes research. It is comparatively recently that vocational educators in the United States have become conscious of the importance of such research. The American Vocational Association has started out on a comprehensive program, but the experimental element does not appear. The President's Advisory Committee on Education considers it "unfortunate that there have been few if any research studies to answer this important question," that is, "What type of education best prepares for a vocation?" The general plan for conducting its own study was "to appoint specialists in each of the major areas of the whole field and to assign to them responsibility for the preparation of memorandums on their spe-

cial topics." Whether those persons were really specialists and whether their opinions were misleading gave rise to much controversy, all of which only emphasized the importance of the Committee's own statement regarding the need for research studies. The cause of vocational education has been handicapped by the failure of vocational educators to evaluate their own product.[5] Research in the field of interests and aptitudes has, of course, been much more extensive.[6]

Of course, research applies not only to the "what" (subject matter) of vocational education, but to the "who" (student personnel) and the "how" (methods).

3. Where?

(*a*) *The Concept "School."* People should learn to work wherever they can do so most economically in terms of time, energy, and money and where the environmental influences will be such as to make them desirable social beings as well as skilful workers. Such places of work-learning should be accessible and available to everyone. They should be called "schools."

A person who went to school a generation ago is astounded at the machinery, the activity, and the adult freedom of a vocational school. These new attributes require reorientation, a new concept of school, not entirely new, but drastically modified.

(*b*) *Worker-Teacher for Prospective Workers.* A job can be learned by trial and error, very badly, very slowly, very uneconom-

[5] Franklin J. Keller, "Comparative Vocational Education and Guidance," *History of Education and Comparative Education,* pp. 408-11. Review of Educational Research, Vol. IX, No. 4 (includes a bibliography of research in the United States and foreign countries). Washington: American Educational Research Association, 1939; John M. Brewer, "Contributions of Research to Special Methods: The Practical Arts," *Scientific Movement in Education,* pp. 161-69. Thirty-seventh Yearbook, Part II, of the National Society for the Study of Education. Bloomington, Illinois: Public School Publishing Co., 1938; President's Advisory Committee on Education, *Research in the United States Office of Education.* Staff Study No. 19. Washington: Government Printing Office, 1939.

[6] Walter VanDyke Bingham, *Aptitudes and Aptitude Testing.* New York: Harper & Bros., 1937; Goodwin Watson, "The Specific Techniques of Investigation: Testing Intelligence, Aptitudes and Personality," *The Scientific Movement in Education.* Thirty-seventh Yearbook, Part II, of the National Society for the Study of Education. Bloomington, Illinois: Public School Publishing Co., 1938.

ically. It can be learned effectively and quickly under the constant supervision of a master worker. This is old-fashioned apprenticeship. The old worker teaches the young worker. He must teach with the tools and materials that create a work environment. That is why trades must be taught in "trade" schools. That is why agricultural education is organized around farm enterprises, why every boy or man centers his study upon a farm project. That is why homemaking is frequently taught in a cottage. That is why each girl plans for experiences in her own home with home equipment and supplies. All of which leads to a consideration of the "cosmopolitan high school."

(c) *The Cosmopolitan High School.* The accepted viewpoint of this Yearbook is that every individual is entitled to both vocational and general education and that the two types of education are closely related, even interrelated. The logical conclusion would be that they can be taught within the four walls of a single building. They can. However, the criteria set up in the preceding paragraph, and which must control, are such that the attempt to give both vocational and general education in the same building has rarely succeeded. The fundamental reason seems to be that the old, experienced worker in a trade is so different a person from the old, experienced worker in words that the two just cannot understand each other and certainly cannot co-operate in the education of young people. This is doubly true of administrators. A trade school usually subordinates general education to the point where it almost disappears, and the academic school corrupts trade education to the point where it becomes a mere dabbling in manual artistries.

The outcomes are not inherent in the situation. They have simply been "usual." But that usualness is highly significant. It indicates that the so-called cosmopolitan high school, if it is to fulfil its function of giving an appropriate kind of education to every individual, must be a strictly controlled institution in terms of the criteria for both trade and general education. This means that:

(1) The trade teachers must be the older, experienced persons we have described.
(2) The academic teachers must be experienced and scholarly.
(3) The two kinds of teachers must understand and appreciate each other.
(4) A strong guidance program must assure each pupil a program appropriate to his interest and capacity.

(5) The principal and other administrators must be the rare combination of worker and scholar who can keep the various phases of the program in balance.

(*d*) *Social Symbiosis.* This writer is embarrassed by the necessity of saying, on the one hand, that the effective comprehensive high school is almost impossible to attain and, on the other hand, that he administers such a school. The implications are obvious. Hence the embarrassment. Nevertheless, so it must be. The school can and should set out to provide each child with vocational competency. Unto vocational competency should be added all the academic, cultural, social essentials and graces that can be effectively acquired. The vocation must contribute to culture and culture to the vocation. The principal must see that they do so contribute. Such is social symbiosis.

There *can* be a comprehensive high school, but it is a fact that there have been few and are likely to be few until a new generation of administrators arises who have had rigid training in both the vocational and general field and are zealous and stubborn enough to administer a school in the interest of both. It is always a soul-stirring but often a soul-trying task.

(*e*) *Co-operative, Continuation, Apprentice Education.* It is a truism that people learn to work best on the job. Such was the apprentice and master worker relationship. However, it is recognized that, while manual operations are thus learned most effectively, the related technical knowledge is often neglected. Continuous, organized group instruction supplies the need. A combination of work experience and classroom teaching proved desirable. Thus arose co-operative education (half time on the job, half time in school), continuation school (five days at work, one-half or a full day in school), and modern apprenticeship, (five days in the shop, a half or full day in the factory school).

Where is the worker "learning"? In the shop, the store, the farm, the home, the office, or in the "school"? Obviously, he is learning wherever he is acquiring skills and knowledges economically and effectively. School is where the learner is.

(*f*) *Experiments in New Types of Schools.* The growing realization of the necessity for vocational education and for full employment for all youth has given rise to the C.C.C. and N.Y.A. experiments described by Dr. Emerson. Whether one approves the method of administration or financing, these new institutions deserve the most care-

ful study. They are very definite answers to the question, where should youth go to "school"? To the American Youth Commission they presage "a uniquely American type of folk school."[7]

(*g*) *Buildings and Equipment.* "Work environment" has been emphasized in the foregoing paragraph. Work environment means buildings and equipment designed for work. The ordinary classroom is designed for work with paper and pencil. Double the size and install office machines and it may take on the atmosphere of a business office. A building designed for the teaching of academic subjects may be used for some kinds of vocational education. But the limitations are severe. Sturdy construction for the support of heavy machines, power lines, special lighting, blower and exhaust systems, freight elevators, runways, high-ceilinged rooms and small cubicles are all features that distinguish a vocational- from an academic-school building. The place for vocational education is in a work environment.

4. When?

More than a generation ago, when the movement for vocational education was gaining strength, the argument was that many boys and girls could not profit from academic education, that they became restless, unruly, delinquent, and went either to work or to jail. Now that we have, in many communities, vocational education beginning at the ninth or tenth school year, we note many educators advocating a program of general education exclusively during the high-school period and the postponement of vocational education until the thirteenth or fourteenth school year.

This trend toward a postponement of vocational education to the later school years is one of the most curious and inexplicable occurrences in the history of education. It does not make sense pedagogically, economically, socially, or historically. It runs counter to the psychology of learning and the philosophy of education. It ignores all the experience derived from the operation of vocational-guidance programs. It is certainly not justified by the discussions in this Yearbook.

(*a*) *General Education, Vocational Education and "Families" of Occupations.* The attempt to get away from vocational education, but not too far away, is evidenced by the substitution of "family of

[7] American Youth Commission, *Youth and the Future,* pp. 69-70. Washington: American Council on Education, 1942.

occupations" for "trade." The line of reasoning is represented by the following passage:

> These factors raise the question of the relation between vocational education and general education at the high-school, junior-college, and college levels. The program of vocational education we have had in the high schools is not an adequate answer to our present problem. It has already been pointed out that job opportunities are not available to many high-school graduates. Recent studies also indicate that among the unemployed as many young people may be found who have had vocational education as have not had it. Also, the trends in enrolment in the technical schools in our large cities indicate that many of those enrolling in the technical schools are already high-school graduates. It should be noticed further that most of those who drop out of school before completing the high school go into the unskilled trades. Technical training of a specific sort, therefore, is inappropriate to these youth, save for a generalized vocational training for a "family" of occupations. Considerable research done by the United States Employment Service indicates unrealized possibilities of generalized vocational training for such "families" of jobs.
>
> These facts indicate that we are now approaching the time when the high school can be relieved of the responsibility for vocational education of a specific sort and thus devote itself almost exclusively to a program of general education. Thus we have arrived at the conclusion that the high school in the future is to be primarily a place for general education—a form of education so much more important than any of the electives or the vocational courses that no school should omit it.[8]

This would seem to be one of the most unrealistic passages in recent educational writing.

(*b*) *Work Experience.* To call the foregoing statement unrealistic is in no way to belittle the importance of general education or to make extravagant claims for vocational education. Moreover, the proposal to postpone vocational education may not mean to the vocational educator what it means to the general educator. Perhaps some sort of synthesis may be reached through a consideration of what the general educator has, in recent years, lauded as "work experience."

First, if "vocational education is learning how to work," and work is the basis of economic status, this learning must begin on an honest, "workmanlike" basis as early as the child develops an interest in such

[8] Homer P. Rainey, "Social Factors Affecting General Education," *General Education in the American College,*" p. 21. Thirty-eighth Yearbook, Part II, of the National Society for the Study of Education. Bloomington, Illinois: Public School Publishing Co., 1939.

work. This workmanlike basis cannot be supplanted by amateur, hobby projects, no matter how valuable these may be in themselves.

Second, in education, emphasis upon "doing" is classic. In 1905 Monroe wrote:

> Industrial training had been recognized as a phase of education by Rousseau, but upon social and economic grounds. Pestalozzi, believing as he did that all knowledge came through the senses and that education was primarily a training of sense-perceptions, had added to this the psychological motive. Though he made these more practically effective than had hitherto been done, Fellenberg had hardly seized more than the social and economic import. On distinctly educational grounds, Froebel gave to all manual and industrial training and to all forms of constructive work the place which they are coming to occupy in modern schooling. Pestalozzi introduced object study and manual activities largely from the receptive point of view, that of imparting knowledge, or at best that of developing the sense perceptions. Froebel gave them a creative purpose. Through them the child was to develop power, since each activity was to the child but an impression of some idea or purpose gained through instruction.[9]

At Hofwyl, near Yverdun, Fellenberg conducted most successfully, from 1806 to 1844, a school that was pronounced by so competent an authority as Dr. Barnard to have been the most influential school that ever existed. The pedagogical principles underlying the work of the school was similar to those of Pestalozzi, with whom Fellenberg had been previously associated in a school experiment. The sociological purpose of the Hofwyl school was twofold: first, to educate the youth of the peasant class in agricultural and mechanical pursuits, and in connection with these industries to give them the elements of an intellectual education; second, to bring the upper class into closer sympathy and understanding with the peasant class by educating them together. Therefore, two schools were established on an estate of some six hundred acres; the literary institute, which gave the ordinary classical education; and the practical institute, which gave the education of the peasant boys for more intelligent farm work.[10]

Perhaps Fellenberg's institution was a comprehensive high school. In any case, it is clear enough that the emphasis of industrial education has been laid again and again and should certainly not be lost now in general education.

Third, general educators have been generous in acclaiming the value of "work experience"—after high school and sometimes in parallel with

[9] Paul Monroe, *A Textbook in the History of Education*, p. 662. New York: Macmillan Co., 1905.

[10] *Ibid.*, p. 723.

college. The benefits of N.Y.A. and C.C.C. have been recognized. However, there has been less understanding and, hence, less recognition of traditional types of work experience that might be even more effective if financed as generously as N.Y.A. and C.C.C. Apprenticeship and continuation schools are good examples. The diversified occupations program is a more recent variation. Work experiences in vocational schools often utilize the going farms and factories for instruction or provide farms or factories closely simulating private establishments. If there is general agreement, as there seems to be, as to the value of work experiences and general agreement as to the importance of recognizing the continuity of the individual's experiences, as there certainly is, there should be hearty agreement upon the desirability of making those experiences available as early as boys and girls can take advantage of them in one form or another. For the vast majority of children the time to start is early in the high-school period.

Fourth, if we agree with Dorothy Canfield Fisher on the moral aspects of work (quoted below) then certainly children should be introduced to real work as early as possible.

Fifth, as must be amply evident, the contributors to the Yearbook are not making a case for vocational education or against general education. They are concerned with the whole education of the whole child —and of the whole adult. General, cultural, academic education is an indispensable phase. This is implicit throughout the Yearbook and is explicit at several points, especially in chapters i and ii. Needless to say, in a Yearbook on vocational education the emphasis must be on vocational education.

5. How?

The distinguishing characteristic of a worker at work is his activity. He is making a product or rendering a service. He is doing something. To become efficient he must learn to do it well. The way in which he learns to do it, especially if he is helped by another person, constitutes probably the most important phase of learning. The content, the place, and the time must be appropriate. The method must be right. It must be pleasant, quick, economical, otherwise the learning process might well remain the by-education that it has usually been, for the essence of good school education is what actually happens to a person in a shop or classroom at any particular time.

The laws of learning a vocation are not necessarily very different from the laws of learning anything else, but the emphases are different.

(*a*) *Occupational Motivation.* It is a rare human being who does not want to stand on his own economic feet, who does not want to earn his own living, who does not want to work. So the work motive is usually present in the individual and provides the first and most important step in the learning process. In a foregoing paragraph it has been suggested that the schools capitalize upon this motive as early as possible in the pupil's career. Not only is the motive potent in enabling the school to teach the pupil how to work but carries over into the field of general education.[11]

(*b*) *Analysis of the Occupation.* As has been frequently reiterated, ever since the beginning of human life people have learned to work. Inevitably, some people have learned quickly to work well. Methods of learning and of teaching have developed. Obviously, good school methods can result only from a preliminary analysis of the methods of by-education. Vocational educators have been fully aware of this necessity and have made many occupational analyses and job analyses, thus revealing both content and method. In the field of general education, educators have made similar analyses of social, political, and economic phases of life, that is to say, of consumer rather than producer values. Vocational education is therefore committed to continuous occupational analyses to keep prospective workers abreast of the times both as to content and method.

(*c*) *Teaching Job by Job.* The occupation or "job" usually consists of a series or complex of acts also known as "jobs." "I have this job to do today and that job to do tomorrow." Sometimes such a job, often today's job, has no relation to tomorrow's. The auto repairman fixes a flat for a customer today and repairs a spring for another customer tomorrow. On the other hand, he may spend a week overhauling an engine for a third customer, thus doing a number of small jobs, the series constituting the big job.

The content of vocational education has been subjected to most careful analysis, resulting in series of jobs of greater and greater difficulty. Assuming that the analysis of the occupation has been accurate and comprehensive, it is then safe to assume that ability to perform all

[11] Mark Ellington, George W. Hoke, and L. L. Jarvie, "Occupational Motivation in General Education," *General Education in the American College*, p. 277, *op. cit.*

the jobs revealed by such analysis is a fair measure of occupational efficiency, of vocational competence, and therefore of vocational education.

(*d*) *Teaching Related Knowledge.* In vocational schools "knowledge" is an inevitable accompaniment of skill. It is the "why" that explains the "how." A bit of science, a mathematical operation, a working drawing, may all be essential factors in enabling skill to do its work. So, motivation works in series. A pupil is interested in learning an occupation, is therefore interested in learning a skill, and is, in turn, interested in learning about science, mathematics, and drawing. He wants to get along with other workers, to be liked by customers, to live happily with his neighbors, to buy food and clothing economically, to be a good citizen, so, as a prospective worker, he is interested in general as well as vocational education.

(*e*) *Appropriating the Methods of General Education.* While the special conditions of work do indicate special methods of learning to work, good vocational education has appropriated the best methods of general education. The best techniques of group instruction are just as useful in one field as in the other. And even though the effectiveness of the job instruction sheet may not be quite equaled in the general-education field, the techniques of individual instruction developed in the general field are certainly useful and effective anywhere. The good vocational educator is an eclectic.

II. Technical, Economic, and Social Trends

1. Technological Changes

The invention of machines and their use in industry gave rise to social revolt and to a classical debate. This was the sequence of thought: More machines, less labor; less labor, more unemployment; more unemployment, greater poverty. Again, more machines, less manual skill; less manual skill, smaller wages. Once more, more machines, less skill; less skill, less education. For one hundred and fifty years people have argued about machines, some saying that they create unemployment and are therefore a great danger, others contending that every new machine creates new jobs and that the balance is kept. The classical debate drew in such famous names as those of David Ricardo, Karl Marx, and John Stuart Mill. It has been carried down through the years on a more or less subjective and philosophical basis, culmi-

nating in objective studies, the most recent being that of the Temporary National Economic Committee.

Instances of labor-saving devices, with accompanying skill saving, can be readily and dramatically cited. The continuous strip mill employs 126 men instead of 4,512, a reduction of 97 per cent. In Boston four thousand telephone operators are employed as against twelve thousand on the 1925 basis. In one large automobile plant 43 per cent of the men are on jobs that require one day to learn; 36 per cent, up to eight days; 6 per cent up to two weeks; 14 per cent, one month to one year; and 1 per cent, more than one year. In 1931 in the metal-working industry 4 per cent of the workers required training of less than one-half month; in 1936, 20 per cent were in this category.

The Temporary National Economic Committee considered the possibilities of new industries and noted four with possibilities: (1) Prefabricated housing encounters various obstacles and there is generally only 10 per cent saving. (2) Air-conditioning has gone far but will advance greatly only when cheap enough for mass buyers. (3) Television encounters technical difficulties and will in large degree substitute for other industries. (4) Diesel engines present many possibilities.

The committee comes to the general conclusion:

> It seems apparent that technology will continue to increase labor productivity, to displace skilled occupations, and to reduce unit labor costs. In the absence of effective offsetting forces economic and social distress may be expected to accumulate.
>
> While technology on one hand creates tremendous economic problems through the displacement of labor, on the other it induces concentration, thereby impeding the operation of the compensatory force of price reduction.[12]

Even a casual study of the problem leaves us with a definite impression that we can come to no definite conclusion as to the effect of technological changes upon the need for vocational education. We have only a collection of pictures of many kinds of vocation. We know that in some of them the number of jobs requiring little or no training is increasing. There we see less need for skill and therefore less need for vocational education. On the other hand, there are some vocations which have risen from the classification of unskilled services to that of professions. This is true of most of the health services—

[12] Temporary National Economic Committee, *Technology in Our Economy.* Monograph No. 22 in the Investigation of Concentration of Economic Power. Washington: Government Printing Office, 1941.

doctors, dentists, and nurses. Even teaching, now considered a profession, was not so long ago only a job that any literate person could undertake.

2. Social Responsibility

Ever since people have tried to live together they have argued and fought as to who should control whom. As a group has grown in numbers and has spread over a larger territory the argument has included distances as well as persons. In modern times it is stated as national *vs.* local control.

(*a*) *National vs. Local Control.* Vocational education has been the only kind of education to be regularly subsidized by the federal government. While every precaution was taken to make these funds stimulating rather than repressive and controlling, some have contended that the local communities were hampered by the federal regulations for the spending of these funds. However, the majority have thought that there was no loss of freedom. Many local communities have been stimulated by the funds and assisted by opportunities to learn from other communities. With the depression came the C.C.C. and N.Y.A. work projects. Here were not only federal control and administration but also competition with state-administered schools. So the controversy has been aggravated. When the government appropriated large funds for defense training, it did so through the vocational divisions of the state departments of education. This was a reversion to the original practice. On the other hand, the government, as a result of the war, has expanded its own schools tremendously. Since almost every known trade is necessary to maintain the Army and Navy, training has been given for these trades. The present organization has been built up in an emergency and, of course, there is general and hearty approval of any measures calculated to win the war. Moreover, this training is for persons to be employed by the government itself. However, when the war is over, the question will arise as to the extent to which the federal government should give training for employment in private industry. And again, it may be asked whether the government should train its civilian employees. Should it set up national schools for other public services? For clerical services, for forestry, for engineering, for all the great projects, control of which will undoubtedly be centered in the federal government? A few years ago the mere

question would have seemed fantastic, but the world has moved fast. Education has been and will be profoundly affected.

(*b*) *Preventive and Corrective Vocational Education.* Not so long ago any education beyond the three "R's" was provided for only the elite. Today, throughout the United States public secondary education is available to everybody and in many states college and university education is free to all. Of course, poverty is a bar, but, for the most part, those who can take the education can get it. This is not true of vocational education. The result is that a considerable amount of delinquency is caused by, or at least accompanies the lack of vocational competency. And certainly, among those who have been convicted for crime, vocational skills are very largely lacking. It is the responsibility of society to teach everybody who can work to work efficiently. The physically handicapped, the mentally handicapped, the morally handicapped, should all work. Their handicaps make it more difficult to choose appropriate kinds of work and, when chosen, to become skilful in them. However, the responsibility is there, and fortunately, as indicated in Messrs. Sylvester's and Wallack's chapters, this responsibility is being assumed and is, in many places, being discharged creditably. This is a definite, healthy, and indisputable trend.

(*c*) *Work and Leisure?* We all remember how we learned our penmanship by copying out, copperplate, "Idleness is the devil's workshop." During every depression, when unemployment rises, we wrestle with the devil. During every boom period, when hours are long, we say that workers need recreation. We all want leisure time but we are afraid that the other fellow may have too much of it. We have seen that technological unemployment is very real and that the organization of compensatory industries is not a natural consequence or even a probable one. So we feel that something must be done about it. The major part of the final report of the American Youth Commission is concerned with this problem. Practical measures are suggested. However, in the last chapter Dorothy Canfield Fisher, in a beautiful piece of writing, cites the spiritual note that cannot be ignored. Assuming that our youth may again be confronted with idleness, with lack of opportunities to obtain remunerative employment, what we all need is a sense of the moral necessity of creative work.

What we need to realize ourselves and constantly to keep before the imagination of youth is the enormous scope, range, and variety of "skills" available to those who will make the effort to acquire them. We have a

laughably absurd tendency to associate the word "skill" with the attempt to go against the current of the times by trying to revive some manual work of the past, now performed by modern machinery. Skill means, of course, doing something—anything reasonably worth doing—*well*. This "something" can range from extraordinary skill as St. Theresa of Avila showed in the reorganization of convent life in her time in Spain, to the simpler skill of an American mother who tries to animate with ardor and intelligence the activities of the small local branch of the Parent-Teacher Association in the school attended by her children. Or it can range from such a mighty manifestation of the communal making of music as the annual presentation of Bach's *Mass in B Minor* by the steel workers and commercial employees of the town of Bethlehem, Pennsylvania, to the faithful work with a small church choir of a conscientious organist and leader. It may be such financial ability as is shown by the trustees of a great university in balancing its budget, or it may be the effort of a few wage-earners to organize a co-operative store. In bringing this matter before the attention of the younger generation we must untiringly remind them of the unending, rich diversity of the activities open to them on the sole condition that they learn, first, to protect their free time with courage and firmness from triviality and commercial exploitation, and, second, to use it wisely and rewardingly.

What we should do, what we must do, is to bring up into the field of consciousness an essential truth which is already a living part of our human experience. This truth is that the heartfelt struggle to overcome one's own limitations and to force the chaotic raw material of human life to submit to shaping and design is not only the most rewarding but also the most natural effort for human beings. It is not the rare prerogative, privilege, and reward of an elite. It is an instinct innate in all human hearts, which can, if we will wisely use the new opportunities open to mankind, grow constantly into a greater and greater element in the lives of men and women.[13]

3. Effects of War

During the early months of 1940, when this Yearbook was first under discussion, war had already broken out in Europe. Every word in the book has been written in wartime. Yet, except in the chapter on training for the war industries, not very much has been said about war. The explanation is simple. Except for the specific job of fighting, that is to say, shooting at the enemy, training for modern warfare is pretty largely the same task as training for peace. This is strikingly illustrated by the rapid change-over of peacetime factories to wartime

[13] American Youth Commission. *Youth and the Future*, p. 286. Washington: American Council on Education, 1942.

work. Airplane factories make airplanes; automobiles factories make tanks; liquor distilleries make alcohol; clothing factories make uniforms; shipyards make transports and battleships. In the armed forces themselves men are trained to be aviators, chauffeurs, navigators, engineers. In the national defense program conducted in the vocational schools during the afternoon and night men are trained for the very same trades that are taught to the boys during the day. Mechanized warfare means that men and women must be trained to make and operate mechanisms. Except for those mechanisms specially designed to kill, these mechanisms are much like those used in peaceful pursuits. One of the striking revelations of the war has been the readiness with which vocational education adapted itself to the emergency.

When this Yearbook is delivered to its readers, two or three months will have elapsed since the final revision of the text. No one can predict what victories may have been won or what defeats may have been suffered, or what treaties may have been enacted during those months. However, it is believed that the words on these pages will, regardless of war or peace, have retained their validity.

The speed-up of production will have given rise to emergency methods of training workers. Extreme mechanization will shift the emphasis on various types of training. Through advisory boards of employers and employees these revised methods will be brought quickly into the schools and methods changed accordingly. In other words, the vocational schools were ready to meet the war and they will be ready to meet the peace. They are organized to reflect the needs of all types of occupations. As these needs change, the schools will change.

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